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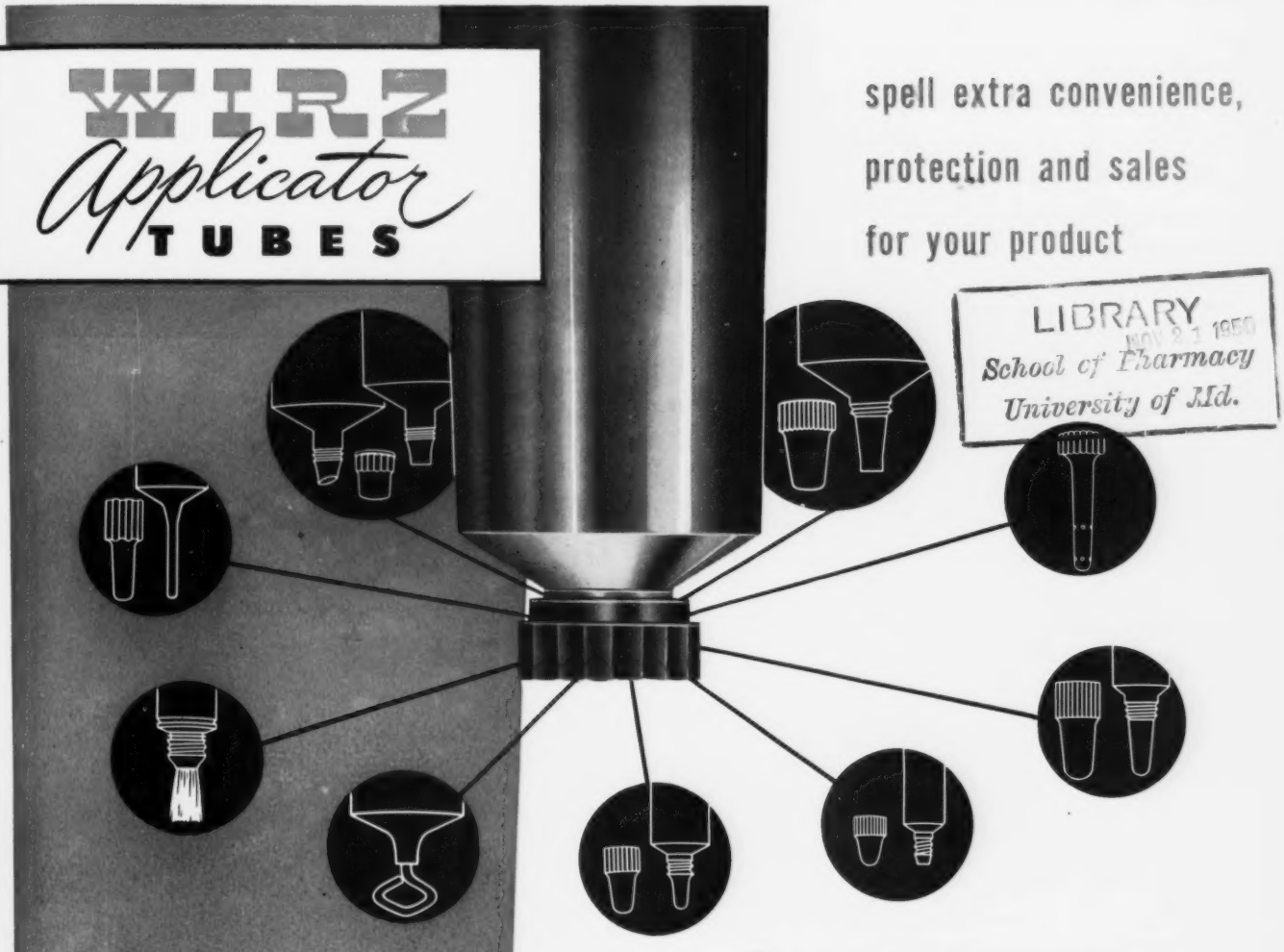

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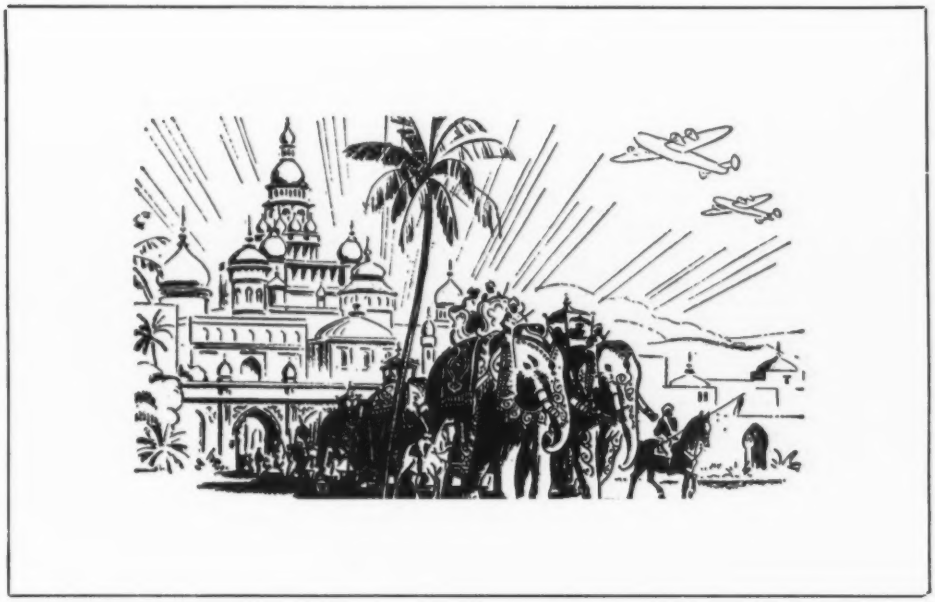

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Published monthly by the Moore Publishing Company, Inc. Publication office, Emmett Street, Bristol, Conn. Editorial and Executive offices: 9 East 38th St., New York 18, N.Y. Subscription rates: U.S.A. and possessions $3.00 one year: 50 cents per copy. Canada $3.00 one year: Foreign $5.00 one year. Volume 56, No. 5. Entered as second class matter January 12, 1950, at the Post Office at Bristol, Conn., under Act of March 3, 1879.

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Published by
Moore Publishing Co., Inc.
9 East 38th Street
New York 16, N. Y.

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H. J. WRIGHT ..... Vice-President

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EDITORIAL AND EXECUTIVE OFFICES: 9 East 38th Street, New York 16, N. Y.

PACIFIC COAST REPRESENTATIVE: Charles D. Eidson, McDonald-Thompson, 3727 W. Sixth Street, Los Angeles 5, Calif. Dunkirk 7-5391; 625 Market St., San Francisco 5, Calif., Yukon 6-0647

WESTERN OFFICE: Room 1328 Peoples Gas Building, Chicago 3, Ill., Harrison 7-7272

PUBLISHED MONTHLY by Moore Publishing Company, Inc. Publication office: Emmett St., Bristol, Conn., U.S.A. Editorial and Executive Offices: 9 East 38th St., New York 16, N.Y. J. H. MOORE, President; J. H. MOORE Jr., Vice President and Treasurer; HARLAND J. WRIGHT, Vice President and Publisher; MARC MACCOLLUM, Vice President; R. G. ALLISON, Vice President; R. R. ROUNTREE, Vice President and Circulation Director; F. W. Nolting, Secretary. Subscription Rates: U.S.A. and Possessions and Canada, $3.00 one year; 50 cents per copy. Foreign, $5.00 one year. Entered as second class matter, January 12, 1950, at the Post Office at Bristol, Conn., under act of March 3, 1879.

Moore Publishing Co., Inc., is publisher also of *Advertising Agency, American Printer, Neighborhood Drycleaner, Gas Age, Gas Appliance Merchandising, Industrial Gas, LP-Gas, Laundry Age, and The Laundry Manager.*

Cable Address: Robinpub, N. Y.
Volume 56, Number 5 (*Copyright 1950, Moore Publishing Co., Inc.*)

the American Perfumer and ESSENTIAL OIL REVIEW

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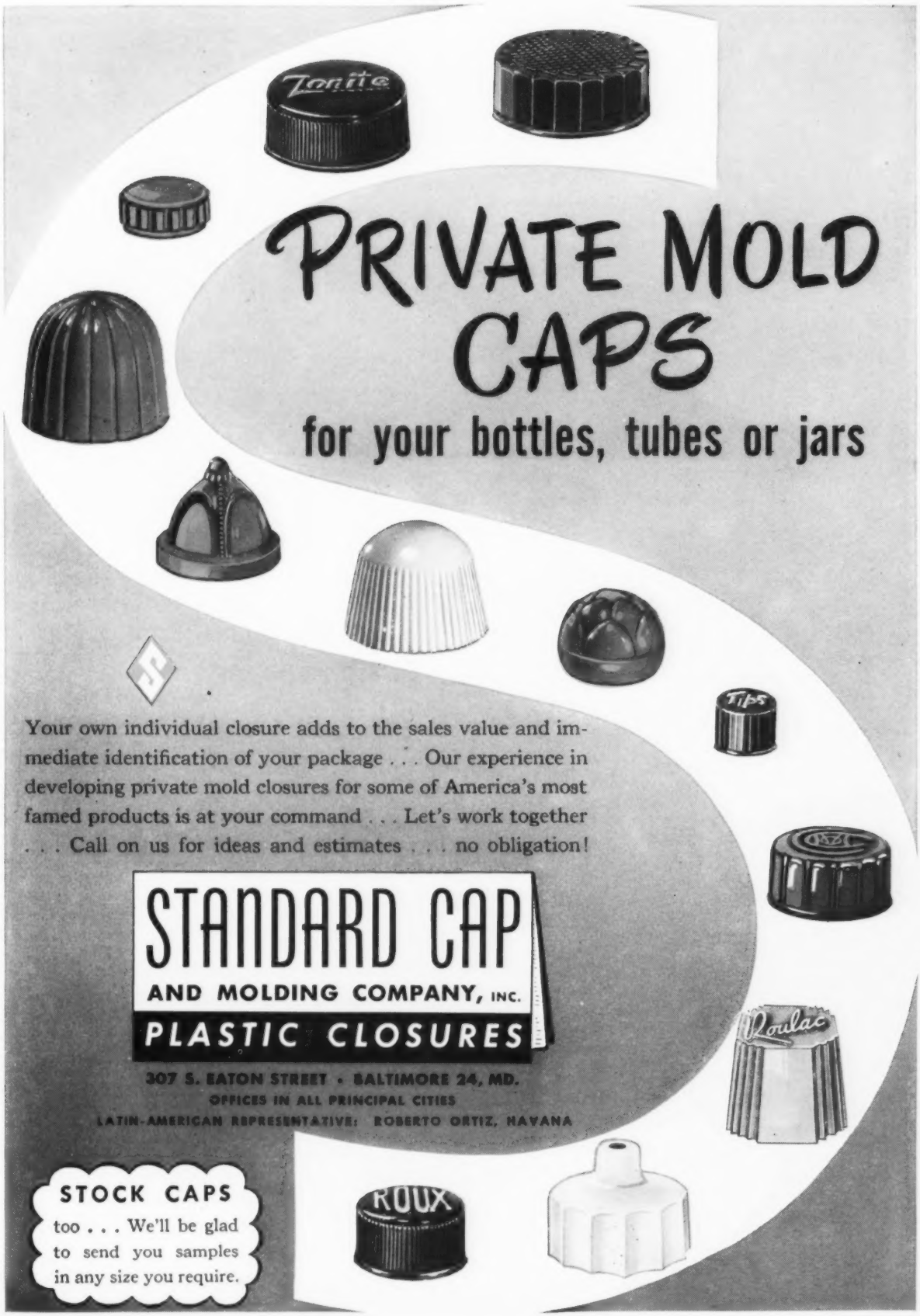

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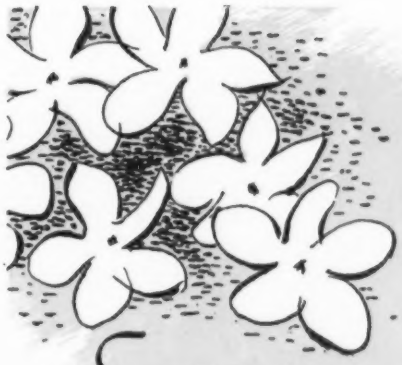

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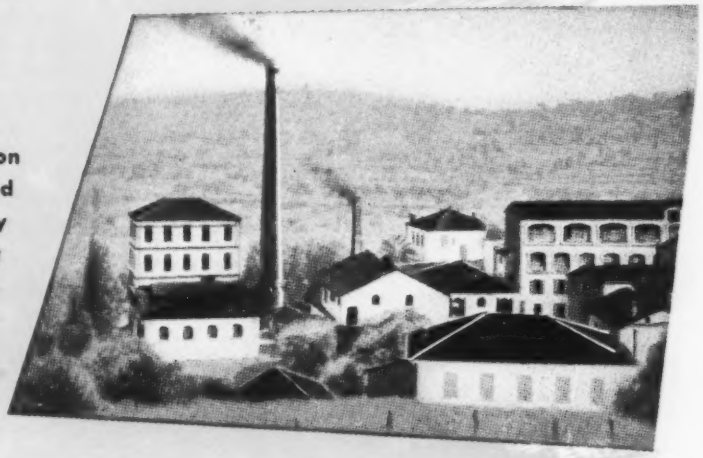

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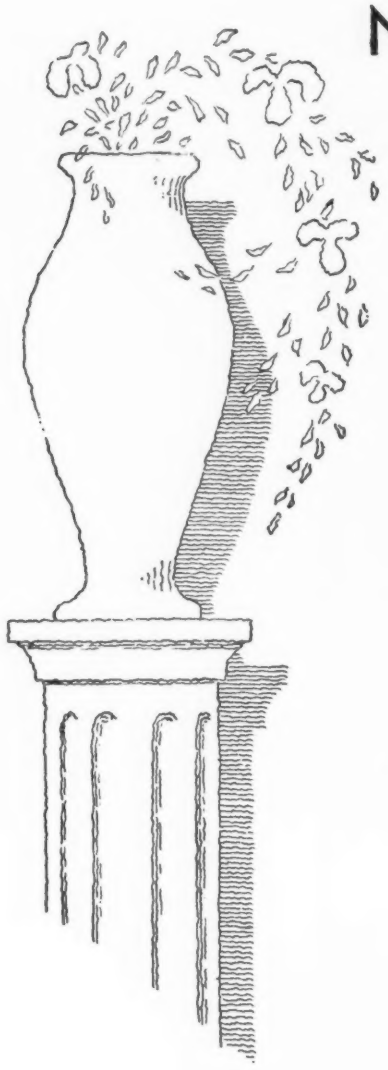

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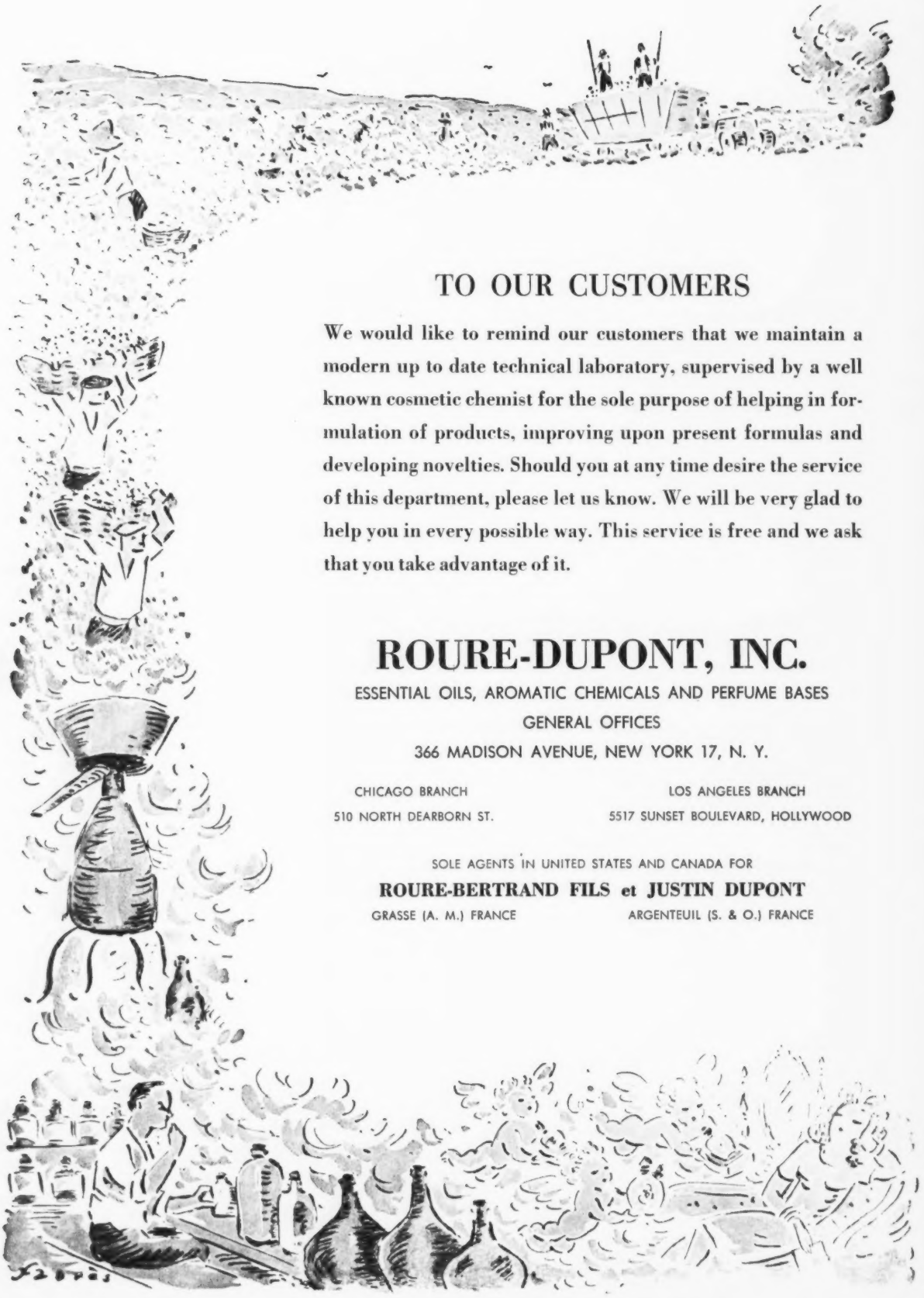

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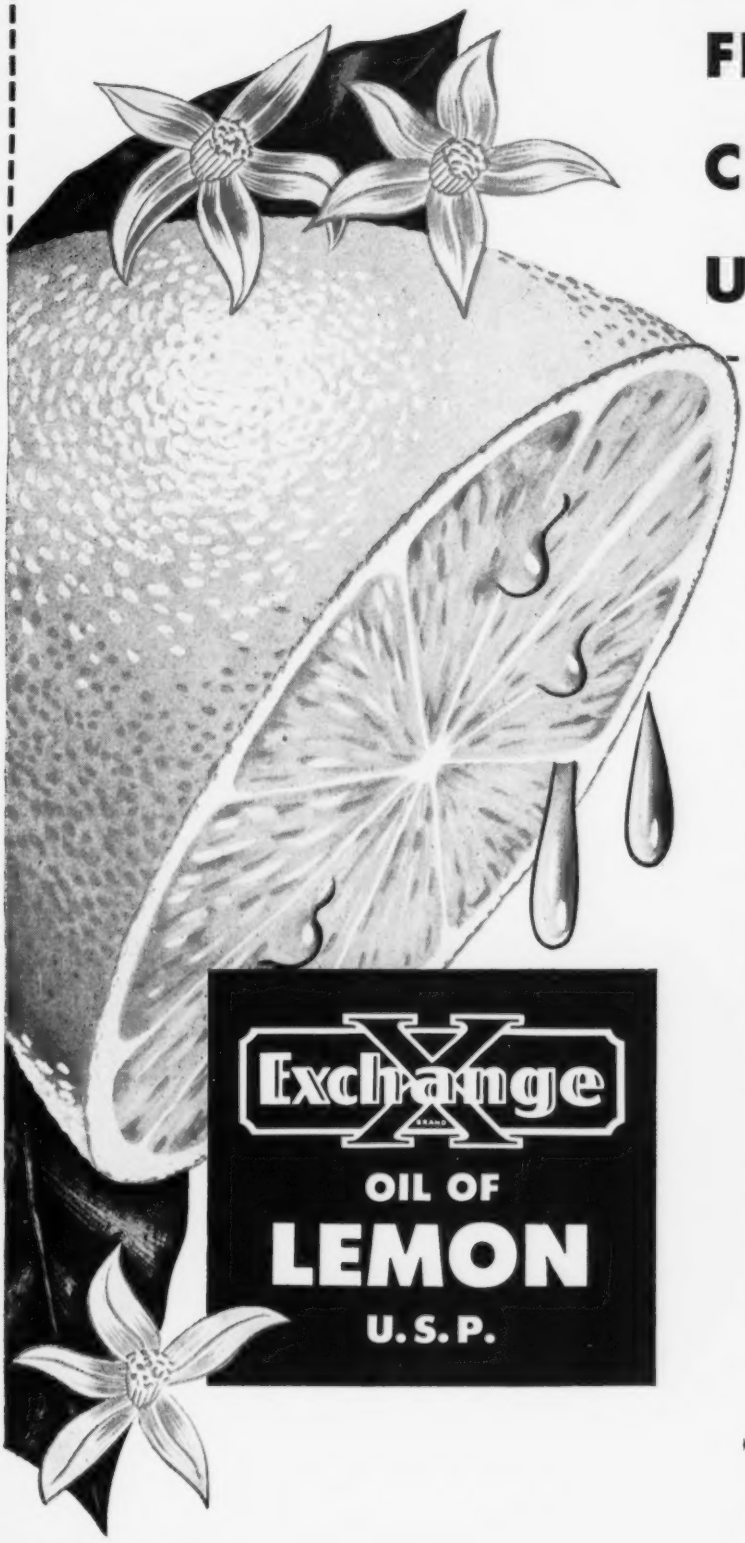

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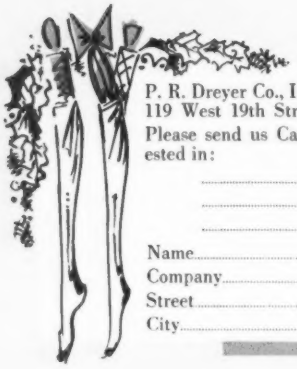

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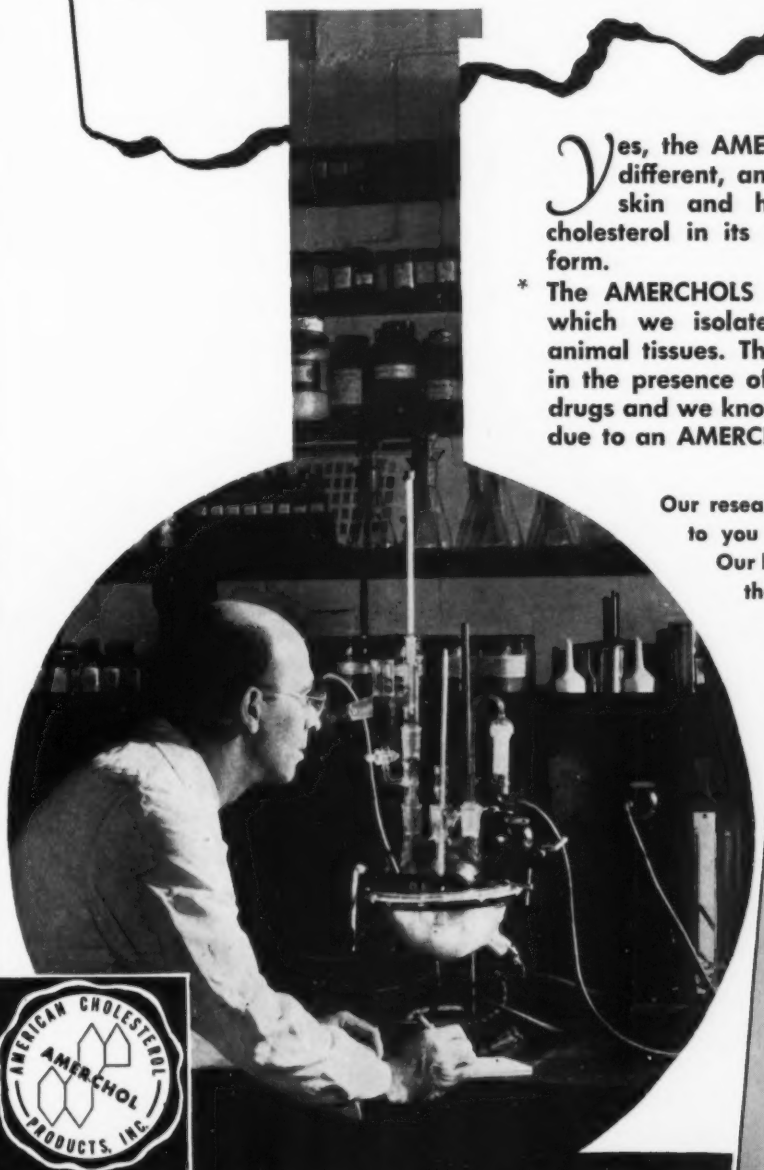

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Desiderata

by MAISON G. deNAVARRE

M. G. deNavarre at work in his laboratory

Plastic Lined Pipes

In these times of scarcity of many materials including stainless steel, it is a relief to find a manufacturer who has been able to take steel pipe and line it with a plastic. The particular plastic is resistant to most corrosive chemicals and solvents; it has been used in place of rubber on vacuum filling units. It has been used in place of copper and steel pipe in many plant operations. It is hard but ductile enough to allowing bending. Now it is fused to steel pipes.

Currently the lined steel pipe is available in a maximum length of ten feet and in diameter of one to six inches inclusive. Plug valves lined with this plastic are also available as are various fittings.

Solvents in Lipsticks

In the last few years various solvents have been used for the purpose of increasing the solubility of bromo acid in lipstick. Castor oil as the standard material has an exceedingly poor solubilizing action on bromo acid. It was followed by butyl stearate which, while somewhat better, was still not too good.

Tetrohydrofurfuryl alcohol was patented as a solvent for bromo acid for use in lipstick and found its way into many formulations. The industry established that formulas had to be greatly adjusted because the lipstick tended to become hard on ageing, presumedly due to the volulizing of the THFA.

Still more recently Gottfried obtained a U.S. and foreign patent on the use of esters of THFA which are intended to overcome this property. Work in this laboratory confirms this in part. Samples of the acetate, ricinoleate and oleate have been tested.

Now the higher glycols, particularly hexylene and octylene glycolates, have been suggested in British literature. Samples tested in this laboratory do not confirm the enthusiasm expressed by British workers. In spite of the high boiling point of the glycols, they seem to evaporate or react with the lipstick mass causing it to become harder and therefore more difficult to apply.

Some work here with the polyglycols, and the wax-like condensates of ethylene oxide show considerable promise. All of them however, require long shelf testing of formulas containing them.

Shampoo Thickeners

A fairly well known supplier of surfactants has recently offered a water soluble alkylolamide which on dilution with water retains its thick consistency. The material is particularly interesting in formulations of concentrated shampoos. Typical of the alkylolamides, solutions of the material are fairly alkaline, which may or may not be a detriment.

This new surfactant is 100 per cent active material, available as a thick amber liquid with a characteristic odor.

Titanium Dioxide

Currently there are two principal sources, possibly three or four, of titanium dioxide for use in cosmetics. Laboratory workers who use the two principle sources are aware of a difference in suspending properties of the material obtained from either source.

Few however realize that the rutile form, while less white, is brighter and has from 20 to 30 per cent higher tinting strength and hiding power than the other type known as the anatase. Both types are crystals and each has specific properties for specific uses. Thus a type of titanium dioxide found useful in face powder may not be especially useful in a cream make-up product. Some types dry or wet tint more readily than others. So it behooves workers with titanium dioxide to investigate its properties completely so as to be able to get the type that does the job best.

Detection of Ethyl Vanillin

Gailey, writing in the *Chemist's Analyst,* 39, 59, 1950, describes a chromatographic method for detecting ethyl vanillin in vanilla extract using strips of Whatman No. 1 filter paper.

According to the author his method not only detects ethyl vanillin but can give a fairly quantitative estimation of the amount. He learned this from testing known compositions against unknown samples.

Aerosol Shampoos

The introduction of the whipped or foamy shampoo has brought a lot of inquiries to the fore. As everyone knows, the aerosol shampoo bomb is of the type used for whipped cream and related products and the propellent is either Freon or Genetron.

Suggested compositions for a Freon propelled shampoo could consist of from 30 to 40 per cent of sodium coconut alcohol sulphate paste, one per cent of magnesium stearate, one or two per cent of a emollient such as polyethylene glycol 400 distearate with water and propellant to make up the balance. Of course the material has to be suitably perfumed.

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Cosmetic Sponge Allergy

One of the most thought provoking articles published by Furman, Fisher, and Leider bring to light that the little foam rubber sponge that is used by many people to apply cosmetics to their faces has become a common cause of dermatitis of the face and neck which is often times overlooked.

This may explain some of the allergies resulting from the use of cake-type cosmetics applied with a wet sponge, for example.

The workers mentioned have tested a variety of cosmetic rubber sponges. Their work is fairly unique in that they report 26 cases of allergies among women of ages 15½ to 33 years.

Therefore when allergies are now reported, one should determine how the cosmetic has been applied, for if a rubber sponge has been used in its application certainly the sponge itself should be tested for its sensitizing effect.

Umbelliferone Derivatives

While benzyl beta methyl umbelliferone has been available in limited quantitites for some time, it has recently been synthesized by two companies on a large scale basis.

The fluorescence of the benzyl derivative is more blue when irradiated and is quite stable in alkaline solutions. Its usefulness therefore in soap is readily apparent.

The suppliers have envisioned its further use in sun screens, laundry and textile finishes.

To get the maximum fluorescence from the material it must be present in solution because the dry substances fluorescence hardly at all. When in solution the solvent has a definite affect on the color of the fluorescence ranging from a bright blue-white through various purple shades.

Home Hair Dyeing

The dyeing of hair at its origin was a home function largely because of the secrecy that had to surround it. However in recent times it has become principally a beauty shop service. As it was practiced, the beauty shop was the natural place to have the work done.

But a new system of hair dyeing is rapidly making progress because it is designed again to do the work at home. So called color shampoos are gaining in sales volume all out of proportion to expectations. The hair color rinse business appears to be increasing as well. It would pay every manufacturer to watch this new development.

Quince Seed

Anyone who has used quince seed has found that the amount of extraneous matter runs all over the scale, that the viscosity of the mucilage has a similar variety and further that the viscosity decreases with time.

Quince seed mucilage has many desirable qualities, the particular one being its peculiar stringiness or glair. However, the loss in viscosity after extraction has been a heartache to everyone. In attempting to solve this problem I have talked about it to a number of people in the trade who use quince seed and while their reasons for these fluctuations vary, there is a certain unaniminity of feeling that the loss in viscosity can be stopped by heating, once the mucilage is extracted or of heating the seeds as is, before extraction. This heating stops either an enzymic process or causes some rearrangement in the mucilage molecule which is more permanent than it would be without the treatment.

If anyone has any further ideas, we would be glad to hear from them.

Questions and Answers

829: Lanolin Supplier

Q. Is it possible that you can supply us with the name and address of a supplier of the lanolin concentrate to be used in the formulation of an absorption base?

M. L. Illinois

A. We are sending you the name of a supplier of a lanolin concentrate under separate cover. On absorption bases, these are all fairly high in price and will not be much cheaper if you make them yourself. Invariably you are better off to use a trade name specialty because its formulation has been balanced to do a good job.

830: Hard Water Shampoos

Q. We are interested in manufacturing milky shampoo and cream fluff shampoo and any help to formulation of such shampoos to be used in hard water will be greatly appreciated. *S. F. S., Calif.*

A. We are enclosing a reprint on cream shampoos which will enable you to manufacture a liquid and solid product.

831: Cationic Agents

Q. May we have the names and sources of the cationic agents used in creme rinses, similar to Hudnut's, Toni, etc.? *E. E. H., N.Y.*

A. To our knowledge, only one cationic compound is used for this purpose. With heat, mix about 1 per cent of either lauryl, myristyl or cetyl alcohol or soap free propylene glycol laurate with about 12 ½ per cent of the cationic compound, bringing the temperature of the mixture, together with about ¼ of the water, to about 60°C. When completely emulsified dilute with water at about 5°C. and mix by hand. The biggest problem in connection with this product is the technique which resists a word description. You will have to try it several ways to get it right. The supplier's name of the cationic compound goes to you by letter.

832: Spray Deodorant

Q. Please send us a formula for an underarm deodorant spray.

F. D. New Jersey

A. In making a formula for an unperfumed underarm spray, we suggest that you make a solution of from 15 to 20 per cent basic aluminum chloride in water containing some alcohol and possibly a polyol. Your spraying device will have to be made of plastic for the solution is corrosive to metal. This product is an antiperspirant. If a straight deodorant is required, we suggest that you dissolve ⅛ per cent of hexachlorophene and ⅛ per cent of dichlorophene in 15 per cent propylene glycol and 75 per cent alcohol, balance perfume and water. Avoid traces of iron to prevent solution from turning a purple color. This product is strictly a deodorant.

833: Perfume Stabilizers

Q. We notice that special stabilizers for "hydroxy" and alpha-amyl cinnamic aldehyde have been devised. We would appreciate receiving a full list of stabilizers used in perfumes together with the address of suppliers. *A.G.N. South Africa*

A. Among stabilizers for perfumes and essential oils, the following are the ones that offer the most promise: N.D.G.A., butylated hydrozyanisole, tocopheral, and ethyl and propyl gallates. Their source of supply goes under separate cover.

One Fragrance May Be Worth 10,000 Words!

No doubt about it! Products sell better—*and with less selling effort*—when correctly perfumed.

However—the selection of the *right* fragrance for a new product is both an art and a science.

When you need help, consult with us. Our chemists and perfumers have a wealth of experience on every type of odor problem.

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The Synthesis of the Hydrazines

Azines as a group appear to have value as sunscreens. . . . Dibenzalazine, furfuralazine and cinnamalazine are excellent sunscreens in small concentrations. . . . Synthesis offers additional information

RODERICK L. MALAN*

The synthesis of the hydrazines assumes greater importance in the light of the knowledge that the azines as a group appear to have value as sunscreens. Compounds such as dibenzalazine, furfuralazine and cinnamalazine, are known to be excellent sunscreens in rather small concentrations. The synthesis suggested by Mr. Malan therefore offers additional information on the subject.

THE series of compounds derived from hydrazine (diamide), NH_2-NH_2, is termed generally "the hydrazines." Any or all of the hydrogen atoms of the parent compound may be substituted.

The hydrazines may be classified in several ways. Sidgwick, indicating the two nitrogen atoms as N and N′, divides the derivatives of hydrazine into the following classes:

1. Those which contain an -NH_2 group; i.e., the monosubstituted hydrazines, and the unsymmetrical or N,N-disubstituted hydrazines.
2. The symmetrical or N,N′-disubstituted hydrazines, also called hydrazo (hydrazi-) compounds.
3. The tri- and tetra-substituted compounds.
4. The hydrazones and azines.
5. The acyl derivatives of hydrazine (the hydrazides and hydrazidines).

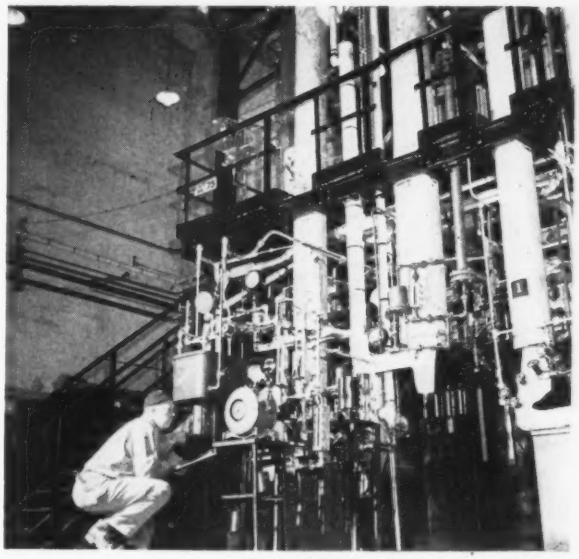
Groups 4 and 5 of the above classification will not be considered in this review.

The aromatic hydrazines, used as starting intermediates for the preparation of certain heterocyclics and as reagents suitable for the identification of carbonyl compounds, are much more important than the corresponding alkyl hydrazines.

The methods for the preparation of the hydrazines are related in part to those for the preparation of the amines. The monosubstituted hydrazines may be prepared:

1. By the substitution or exchange of one of the hydrogen atoms of hydrazine.

a. Reaction with organic halides.



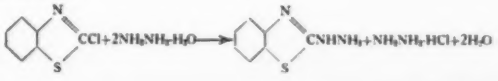
Standard Oil Co. (N.J.) photo by Bubley

An operator watches the progress of a reaction in the hydrocarbon synthesis plant set up by Standard Oil Co. (N.J.) at Linden, N.J.

This reaction is very limited in the aliphatic series. Westphal has reported the formation of alkyl hydrazines by this method. In the aromatic series the exchange of halogen for the hydrozino group proceeds readily if the halogen is activated, especially by nitro groups. 2,4-Dinitrophenylhydrazine is prepared in 81-85 per cent yield as follows:

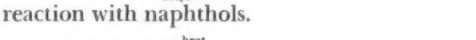
$$C_6H_3(NO_2)_2Cl + NH_2NH_2 \cdot H_2SO_4 \xrightarrow{KOAc} C_6H_3(NO_2)_2NHNH_2$$

Heterocyclic hydrazines are prepared similarly. This modification may be illustrated by the formation of 2-benzothiazolylhydrazine. The yield is 92 per cent of the theoretical.

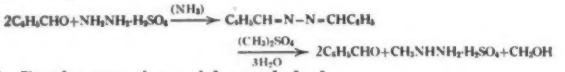


* Research Laboratories, Eastman Kodak Co. Published by courtesy of Organic Chemical Bulletin.

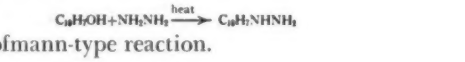
b. Reaction with salts of alkyl hydrogen sulfates.



c. Reaction with an aldehyde, methylation of the corresponding hydrazone, and subsequent hydrolysis. Methylhydrazine sulfate is prepared in 51-54 per cent yield by this procedure.

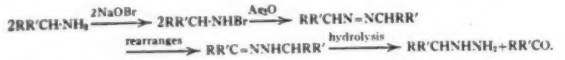


d. By the reaction with naphthols.



e. By a Hofmann-type reaction.

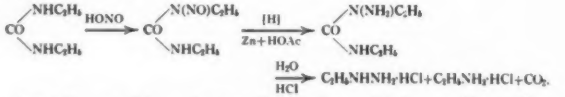
f. From a bromo-amine by the method of Kijner.



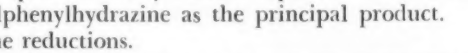
2. *By reduction methods.*

a. Acid reductions.

(1) E. Fischer's method for the reduction of nitrosoalkylurea derivatives is most suitable for the aliphatic series. It is probably the best method for the preparation of ethylhydrazine, the yield being 47 per cent of the theoretical.



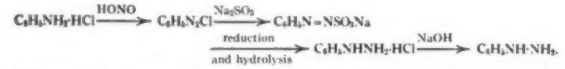
(2) Victor Meyer's method, in which a diazonium salt solution is reduced directly to the hydrazine with stannous chloride, is widely used in the aromatic series, usually with 60-80 per cent yields.



(3) The action of zinc diethyl on benzenediazonium chloride suspended in dry ether is reported to result in α,β-diethylphenylhydrazine as the principal product.

b. Alkaline reductions.

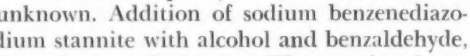
(1) The alkaline reduction of diazonium compounds was developed by E. Fischer. The preparation of phenylhydrazine in 80-84 per cent yield is a well-known example.



The reduction step has been carried out both with acid and alkaline reagents. Zinc and acetic acid, sulfurous acid, and sodium hydrosulfite have been used. One method that has been used indicates that an excess of sodium sulfite is all that is needed, at least for this particular case.

(2) In caustic alkaline solutions, the metallic diazotates may be reduced by sodium amalgam.

(3) Hydrazine derivatives have been prepared by the use of sodium stannite. Normally the hydrocarbon is formed with loss of nitrogen when this agent is used. It has been postulated that the reduction proceeds through the intermediate phenyldiimide, $C_6H_5N{=}NH$, which is unknown. Addition of sodium benzenediazotate to sodium stannite with alcohol and benzaldehyde, results in benzolyphenylhydrazine. The reaction is explained as the condensation of the intermediate diimide and the aldehyde.



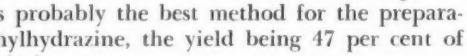
The unsymmetrical disubstituted hydrazines may be prepared by the reduction of secondary nitrosoamines. This method may be used in the preparation of alkyl hydrazines such as unsym.-dimethylhydrazine hydrochloride in 69-73 per cent yield, mixed alkyl-aryl hydrazines such as α-methyl-α-phenylhydrazine in 52-56 per cent yield, or aryl hydrazines such as α,α-diphenylhydrazine in 32 per cent yield.

The symmetrical disubstituted hydrazines may be prepared:

1. Indirectly by the use of a dihydrazide.

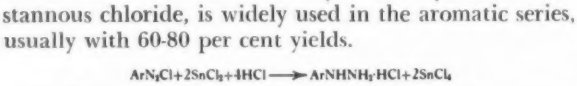
The hydrazine is converted to the diformyl or the dibenzoyl derivative. The acyl groups are removed by hydrolysis after methylation. The yield is 75-78 per cent of the theoretical.

2. By the reduction of nitro and azo compounds, either electrolytically or with zinc dust and alcoholic potassium hydroxide.



Hydrazo compounds, especially nitrated ones, are prepared frequently by the action of phenylhydrazine on active halogen compounds.

The trisubstituted hydrazines are difficult to prepare and have been little investigated. The only method of preparation of value is as follows:



Tetrarylhydrazines may be obtained by dehydrogenation of diaryl amines. Tetraphenylhydrazine may be prepared as follows:

Scare Selling

THE use of scare tactics in selling is a confession of weakness. It can only mean that the salesman feels he lacks the ability to prove his case by normal methods and must either frighten his prospect into buying or appeal to a base sense to hoard against an emergency. It has its counterpart in selling on reciprocity. Most business men resent such tactics. . . .

Selling of that kind is not in the self-interest of either the company or the salesman. In a broader sense, it is not in the interest of the nation. We want no part of it.

Our own policy in regard to purchases of equipment and the materials we buy for fabrication is to proceed at a normal rate. We hope that other business organizations will be similarly minded. The purpose of this appeal is to restate this policy and to acquaint those who are new to our sales organization with our feelings and with the manner in which their efforts should be directed.—*H. M. Nordberg, Pitney-Bowes Inc.*

A college education nevers hurts anyone willing to learn something afterwards.—*Fifth Ave. Protective Assn.*

Retailers After More Subsidies

Manufacturers being pounded for new forms of discounts, allowances and other aids to help sell cosmetics on which retailers already have generous discounts . . . Twenty forms of subsidies being sought

JILL JESSEE*

GIVE till it hurts! Give to your last shirt—the one on your back! Give everything you've got and mortgage the old homestead to give still more to the retailer to help him sell your product on which you've already given him a generous discount. The mark-up he considers "all his own" to spend as he likes. No part of that should be ear-marked for selling, display, or advertising expenses—not if he can help it! And not as long as you, the manufacturer, continue to coddle him and pay his bills.

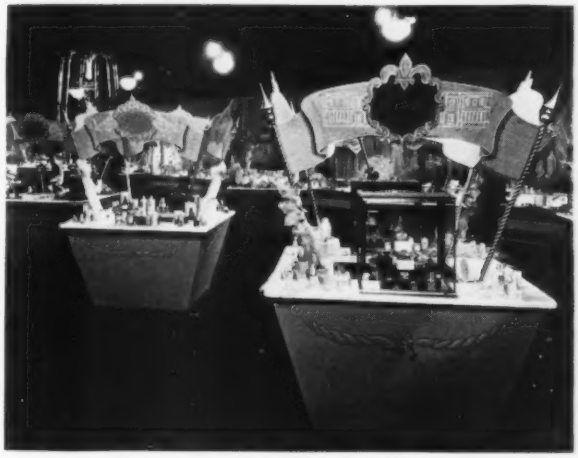
We talked in a previous issue about the evils of specials. Not only do special price promotions give the customer the idea that you can well afford to cut your regular price and still make a handsome profit, but now you've also given the *buyer* the idea that you've got money to burn.

Entire Burden Put on Manufacturer

In a recent issue of *Cosmetics and Toiletries* results of a questionnaire sent to cosmetic buyers were reported. The purpose of the questionnaire was to determine how to improve cosmetic business this fall. Naturally, the retailer put the burden—all of it—on the manufacturer. We have always believed in doing our share plus in any relationship, but surely all the effort and all the cost shouldn't be heaped on one head.

Unanimously, all cosmetic buyers want increased local advertising budgets even if national advertising must be sacrificed or foregone entirely. They feel, as a matter of course, that this increase should be on the part of the manufacturer and not equally shared. But the subject of co-operative advertising (and Webster should revise the definition of co-operative in this application) is a topic for another time. The point we meant to make here is that the buyer would like the manufacturer to give him the money instead of cutting his price. Here is a typical comment from *Cosmetics and Toiletries* survey:

"Special deals are a menace to retail economy. They occupy too much space in the store and accomplish nothing. The money spent on these special deals, *if given to the retailer in the form of additional markup*, would encourage him to do more local advertising." Chickens have a habit of coming home to roost!



Manufacturers must pay for displays like these, which cause only a small sales boost for any one brand while the store reaps big profits from increased sales in the cosmetic department.

And if you read *Women's Wear Daily* Friday issues religiously, you're well acquainted with cosmetic buyers' opinions on what the manufacturer should pay to the stores that sell his merchandise. Aside from more advertising money, the manufacturer must, of course, continue to pay in full for salesgirls. He should provide more and more and more samples (this was discussed previously too). But about the most flagrant "gimme" we've come across in a long time comes from a display manager who says that manufacturers should be billed for retail display space and props. His point is that display is a form of advertising and manufacturers pay for newspaper space, don't they, so why not for window space too? And if the manufacturers also paid for the props, it would make a nice saving for the stores' display departments. This is already happening, but soon it will be an epidemic. So when you haven't anything else to brood about, just put this idea in your pipe and smoke it some long, cold winter evening!

Twenty Forms of Subsidies

Grey Matter published regularly by the Grey Advertising Agency, Inc. recently listed 20 forms of subsidies that the retail store demands (requests is hardly the word) from its resources. With its permission, we

* Consultant. Formerly promotion expert for Lentheric, Inc.

are re-listing these in the event you haven't seen them; but even if you have, they should be engraved on your soul. Here goes:

1—Co-operative advertising.
2—Allowances for interior and exterior display of merchandise and of display material. (See above)
3—P.M.'s for salespeople.
4—Mark-ups on rates paid by the retailer for local space, time, etc. (The mark-up sometimes is 100 per cent.)
5—Payment for space in store circulars, catalogs, etc.
6—Special allowances for so-called "mass" displays of merchandise, for eye-level position, for better location in the store, etc.
7—New forms of interior display—such as wall posters—charged for at "regular rates."
8—Allowances for "special events" ranging from anniversaries to birth of the store president's grandson.
9—Free merchandise for give-away promotions of all types.
10—Allowances for "operating costs" in connection with special promotions by manufacturers premium offers, etc., etc.
11—Charges for "bookkeeping" in connection with checking advertising allowances.
12—Unrestricted return privileges—while not usually classed as an "allowance" this privilege quite obviously is another form of subsidy.
13—Unearned "warehousing" charges.
14—Reversed telephone toll charges—one retail organization has instructed its buyers to reverse all toll charges when calling suppliers.
15—Quantity discounts on small orders.
16—Contributions to employee affairs—dances, picnics, etc.
17—Contributions to charitable ventures in which a store executive may be interested.
18—Charges for re-marking merchandise when price is changed—this is merely one of a host of small charges to cover "costs" when a manufacturer makes a change of any kind in his line.
19—Charges for "listing," for "bulletin-izing," etc.
20—Charges for "special fixtures," "special trims," etc.

If you haven't received bills for quite all of these things yet, just be patient. And you might even add to the list such additional items as being high-pressured into participating in stores' Christmas bonus plans, for paying for special smocks or costumes to be worn by the cosmetic salesgirls, and on and on! ad infinitum.

Job Seekers Past 50

ALTHOUGH this is the era of great opportunities for youth, that should not blind us to the fact that our older and experienced men still have a great deal to contribute to our economy and society. The question is not one of youth or age—in this country of enterprise and opportunity, every man, whether he is young or old, should have the right to be judged on the basis of his own capacities and qualities and on what he can contribute as an individual.

That has always been true, but the matter is becoming of growing importance as our medical science and standard of living are increasing life expectancy and enlarging the group of productive citizens who are in their 50s and 60s. We are finding ways and means of stretching the span of men's useful lives and we are thus preserving skills and knowledge that would otherwise be lost. If we do not see to it that men in middle age and beyond have employment opportunities equal to their capacities we are wasting a great natural asset, and the waste is a double one: first, in failing to make maximum use of abilities which are productive; and second, in placing older men in a position where society must support them, even though they have the ability to support themselves.—*J. H. McConnell in Printers' Ink.*

On the Theory of Odors

I CANNOT resist the temptation to add one more hypothesis on the nature of the sensation of smell to speculations of others on this subject. Several characteristic traits of this sense can be accounted for without infringing on basic physical principles if it is attributed to the inhibition of certain enzymes contained in the olfactory organs. Suppose that a system of enzymatically catalyzed reactions represented schematically, for instance, by A, A′ - A″; B- B′ - B″; C- C′ - - C″; etc., is causally related to the olfactory nerve signals. Each step, as A- A′ or A′ - A″, is catalyzed by a separate enzyme, and each of the compounds A′, B′, C′, etc., in a number related to the number of basic smells, is capable of causing a signal in a distinct nerve when its concentration is altered. This particular reaction scheme is of course not essential to the following. What is essential is some mechanism by which changes in concentration of several active enzymes are converted into distinguishable nerve signals. The effect of a compound possessing the property of odor is the inhibition of one or more of these enzymes, causing a shift in relative concentrations of A′, B′, C′, etc., and thus producing signals in the nerves that respond to these compounds.

This proposal has the merit of accounting for a number of known traits of the sense of smell: (1) high smell sensitivity becomes plausible because the quantities of the enzymes involved may be exceedingly minute; the intensity of smell becomes related to the extent of inhibition; (2) the wide range of compounds having odor becomes understandable because enzymes are frequently inhibited by a great variety of compounds and yet show definite selectivity in this respect; (3) complex odors are seen to be the result of inhibition of several of these enzymes by the compound in question, and apparent changes in the quality of smell with the concentration are the result of (nearly) total inhibition of some of the enzymes; (4) reversibility of most odors corresponds to the reversibility of many enzyme inhibitions, but there is the possibility of nonreversible inhibition by other compounds, which corresponds to the persistence of certain odors.

As I have no means for carrying out physiological experiments and moreover, have not conceived of any tests which might be termed crucial for this hypothesis, it is being offered as a mere speculation.—*Dr. G. B. Kistiakowsky, Department of Chemistry, Harvard University, in Science, Vol. 112, p. 154, 1950.*

Florida Coldpressed Orange Oil

Use of proper processing technique results in production of cold-pressed orange oils of highest quality which consistently meet U. S. P. specifications . . . Equal or superior to orange oils from any source

J. W. KESTERSON*

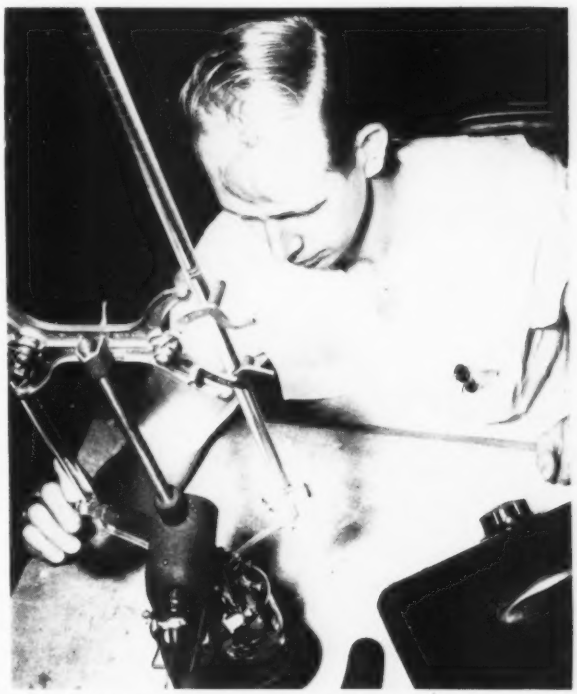
A TWO year survey of the commercial production of orange oils in Florida was completed in June 1949. Methods of commercial production, that were used throughout the state during the 1947-48 and 1948-49 fruit seasons, were studied, and the physical and chemical properties of 98 samples of orange oil were determined. The principal purpose of this study was to determine by what means coldpressed orange oils of very high quality could be produced. Through the use of the data obtained orange oil producers in Florida should be able to produce coldpressed orange oil which will consistently meet the specifications of the United States Pharmacopoeia (4) and other high quality requirements of the essential oil consumers throughout the country. The production of oils of highest quality and uniformity should result in a larger consumer market.

Another purpose of this study was to determine the relationship between the physical and chemical characteristics of expressed orange oil and such factors as methods of extraction and methods of processing.

Methods of Commercial Manufacture

Coldpressed orange oils are expressed by four different types of equipment; namely, (1) Pipkin roll, (2) Screw press, (3) Fraser-Brace extractor, and (4) Pipkin juice extractor. The general processing procedure, which is used after the extraction of the oil from the peel, is very similar in most of the commercial plants. All of the above methods of extraction gave an emulsion of oil and water. The oil is separated centrifugally from the aqueous phase by passing the emulsion through a sludger (8,000-10,000 r.p.m.) and then through a polisher (16,000-18,000 r.p.m.). Following separation, the oil is stored for approximately one week at 32-40°F. and during this winterizing treatment undesirable waxy materials separate from the oil and are allowed to settle. The clear oil is decanted into stainless steel storage tanks or tin-dipped containers, which are then maintained at a storage temperature of about 40°F. Air is usually excluded from the container in order to prevent deterioration. Exclusion of air is accomplished either by filling the container full of oil or by displacement of the air with carbon dioxide.

* Citrus Experiment Station Lake Alfred, Florida.

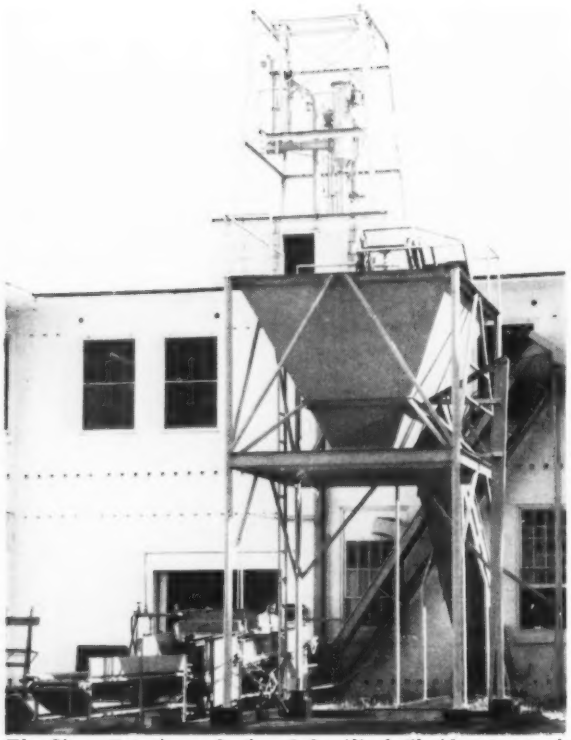


The author uses a titrimeter in determining aldehyde content.

Survey of Commercial Plants.—Information pertaining to the various processes used in Florida for the manufacture of expressed orange oils was secured through the helpful cooperation of commercial processors. In order to secure the data used in computing yield values, the author visited plants employing the various methods of oil extraction. Rate of flow measurements were made on each unit process operation for each individual process. Data were taken covering periods of operation of 4 to 24 hour's duration.

Collection of Samples.—Coldpressed orange oil samples were secured from four plants, each one of which was using a different method for the extraction of the oil from the peel. Samples were taken each month from lots of oil ranging from 500 to 11,000 pounds which represented the production for approximately one week.

Methods of Analyses.—The physical properties of



The Citrus Experiment Station, Lake Alfred, Florida, operates its own processing and pilot plant for citrus fruit products.

the original oils and the 10 per cent distillates were determined by the Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists (1). The specific gravity was determined at 25°C./25°C. and the optical rotation at 25°C. as recommended by the United States Pharmacopoeia (4).

The aldehyde content of the oils was determined by the hydroxylamine method as given by Guenther (2). The final end point for the reaction was obtained by using a titrimeter rather than the bromphenol blue indicator. All of the aldehyde values were calculated as decyl aldehyde.

The method of Seeker and Kirby as reported by Poore (3) was used for the determination of esters. In this method the aldehydes present are removed with hydroxylamine hydrochloride prior to the saponification of the esters.

The evaporation residue was determined by a method very similar to that given by Guenther (2). A watch glass (100 mm. in diameter) was used in place of an evaporating dish, and after having been heated on the steam bath for the prescribed length of time the watch glass was transferred to an oven at 100°C. and dried for one hour.

Experimental Results

The maximum and minimum values for the physical and chemical properties of samples of coldpressed orange oil, which were secured from four commercial plants during the 1947-48 and 1948-49 seasons, are presented in Table 1. Each of the four plants used a different method for extracting the oil.

Data secured at the various processing plants pertaining to the yield of oil obtained by the different methods of extraction were averaged and are presented in Table 2. This table also shows the relationship between the yields of cold-pressed orange oils, which were obtained by the four methods of extraction, and all of the physical and chemical properties of the oils, with the exception of aldehyde content. Data for all four of the different methods of extraction are not available for the months prior to February; therefore, they could not be used to secure average values for purposes of comparison. These data represent average values for the months of March, April and May, during which time most of the oranges processed were Valencia.

Table 3 gives values for the aldehyde content of expressed orange oil. Here, also, the average values for the aldehyde content of samples of oil secured during March, April, and May are used.

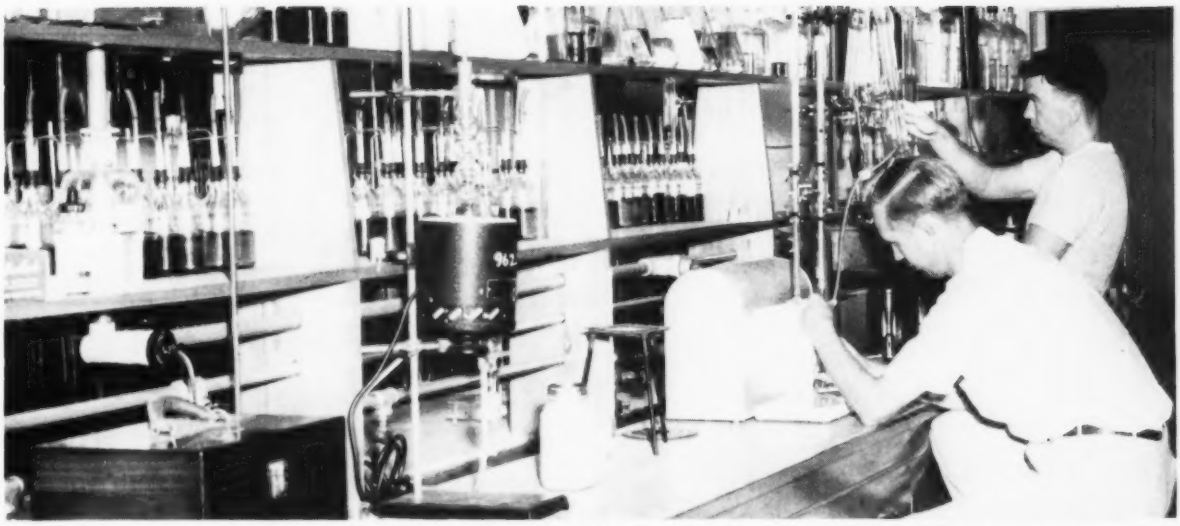
Discussion of Results

Relation of Yield to Properties and U.S.P. Specifications.—The factor which was found to influence the physical and chemical properties of coldpressed oil of orange to the greatest extent was the yield of oil secured from the peel. As shown in Table 2, as the yield of oil increased the values for the specific gravity, evaporation residue, and refraction index increased, but the values for the optical rotation decreased. Thus, the percentage of the total amount of oil in the peel that is

Table 1. Maximum and minimum values for the properties of coldpressed orange oil produced in Florida during the 1947-48 and 1948-49 seasons.

Method of Extraction	All Methods		Pipkin Roll		Screw Press		Fraser-Brace Extractor		Pipkin Juice Extractor	
Number of Samples Analyzed	*35 - 63**		4 - 6		8 - 6		6 - 3		17 - 48	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Specific gravity 25°C./25°C.	*0.8458 **0.8453	0.8416 0.8420	0.8425 0.8432	0.8420 0.8420	0.8426 0.8423	0.8416 0.8420	0.8458 0.8453	0.8441 0.8443	0.8433 0.8443	0.8420 0.8424
Refractive index N_D^{20}	1.4734 1.4743	1.4718 1.4724	1.4722 1.4734	1.4718 1.4724	1.4724 1.4733	1.4719 1.4727	1.4734 1.4743	1.4730 1.4736	1.4729 1.4737	1.4722 1.4729
Refractive index of 10% distillate N_D^{20}	1.4715 1.4727	1.4703 1.4714	1.4711 1.4722	1.4708 1.4717	1.4712 1.4723	1.4707 1.4719	1.4713 1.4724	1.4703 1.4718	1.4715 1.4727	1.4707 1.4714
Difference	0.0031 0.0019	0.0008 0.0007	0.0013 0.0012	0.0009 0.0007	0.0015 0.0012	0.0008 0.0007	0.0031 0.0019	0.0017 0.0016	0.0015 0.0015	0.0010 0.0010
Optical rotation $[\alpha]_D^{25}$	+97.76 +98.05	+95.16 +94.54	+97.76 +98.05	+97.16 +96.64	+97.59 +97.80	+96.69 +96.53	+96.30 +96.12	+95.16 +94.54	+97.57 +97.55	+96.19 +94.98
Optical rotation of 10% distillate $[\alpha]_D^{25}$	+98.70 +98.73	+96.81 +96.49	+98.19 +98.31	+97.52 +97.30	+98.32 +98.65	+97.24 +97.81	+98.70 +98.31	+96.96 +97.84	+97.89 +98.73	+96.81 +96.49
Difference	2.44 3.70	0.00 0.14	0.85 1.28	0.01 0.14	0.73 1.41	0.03 0.60	2.44 3.70	1.51 2.05	1.30 2.00	0.00 0.57
Aldehyde content-%	2.04 1.71	0.92 0.93	2.02 1.70	1.70 1.63	1.55 1.50	0.92 1.37	1.65 1.39	1.08 0.93	2.04 1.71	1.17 1.48
Ester content-%	1.63 1.34	0.04 0.19	1.01 0.75	0.15 0.19	0.95 1.09	0.04 0.35	1.63 1.28	0.35 0.93	1.09 1.34	0.08 0.32
Evaporation residue-%	4.93 4.19	1.07 1.37	1.57 2.42	1.07 1.40	2.20 2.23	1.38 1.37	4.93 4.19	3.12 3.86	2.59 3.22	1.85 2.12

* First figure represents 1947–1948 season. ** Second figure represents 1948–1949 season.



Dr. Kesterson and his staff use the facilities of the well-equipped research laboratory at the Citrus Experiment Station.

extracted determines the characteristics of the oil and, therefore, its final quality. As the yield of oil is increased, more high-boiling, high-molecular weight constituents are evidently extracted and the presence of a greater percentage of these compounds in the oil causes a reduction in the percentage of d-limonene. This results in lower optical rotation values since d-limonene is the most optically active component in the oil.

Analyses of expressed orange oils indicate that the oil produced by some of the manufacturing processes at certain times did not meet the U.S.P. (4) specifications, because some of the processes resulted in yields which were too low or too high. Only one method of extraction gave yields so that the oil consistently met the requirements of the U.S.P. However, it is apparent that if oil is extracted in such a manner that the yield falls within a certain range, then it will meet U.S.P. specfications. If the yield is below the minimum of this range, then the values for specific gravity, refractive index, and evaporation residue will be below the U.S.P. requirements, and if the yield is above the maximum of this range, then the difference between the optical rotation and refractive index values of the original oil and the 10 per cent distillate will not meet the U.S.P. standards. Excessively high or low yields should be decreased or increased by the mode of operation of the extraction equipment to give a yield of oil having those properties which are indicative of good quality. Based upon the data accumulated it is estimated that the extraction of 45 to 60 per cent (as determined by Clevenger method) of the total amount of oil in the peel of any variety of fruit of good maturity will result in a coldpressed orange oil that will meet the specifications of the United States Pharmacopoeia (4).

In Table 2 a correlation is shown between the ester content and yield of oil secured from the peel for the 1948-49 season. As the yield increased the values for ester content increased. This correlaton was not evident during the 1947-48 season.

Effect of Yearly Variations on Properties.—The 1947-48 fruit season was considered to be a very wet year; whereas, the 1948-49 fruit season was considered to be a very dry year, and it would be expected that yearly variations of this kind would result in differences in the physical and chemical characteristics of the oil. However, there were only two factors which were affected to any extent. These were refractive index and aldehyde content. The values for refractive index shown in Table 2 averaged 0.0008 of a unit higher during the 1948-49 fruit season. Refractive index values for one

Table 3. Aldehyde content of coldpressed orange oil produced in Florida during the 1947-48 and 1948-49 seasons.

Aldehyde Content %		Method of Extraction
1947-48	1948-49	
1.93	1.60	Pipkin juice extractor
1.91	1.66	Pipkin roll
1.58	1.23	Fraser-Brace extractor
1.47	1.46	Screw press
1.73	1.49	All methods (average)

Table 2. Relation of yield to the characteristics of coldpressed orange oil produced in Florida during the 1947-48 and 1948-49 season.

Yield Lb. Oil/Ton Peel	Specific Gravity $25^{\circ}C./25^{\circ}C.$		Evaporation Residue %		Optical Rotation $\overset{25}{D}$		Refractive Index N_D^{20}		Ester Content %		Method of Extraction
	1947-48	1948-49	1947-48	1948-49	1947-48	1948-49	1947-48	1948-49	1947-48	1948-49	
9.70	0.8448	0.8448	3.60	4.04	+95.66	+95.05	1.4732	1.4739	0.94	1.08	Fraser-Brace Extractor
7.00	0.8430	0.8431	2.18	2.46	+96.49	+96.16	1.4724	1.4732	0.51	0.77	Pipkin Juice Extractor
4.90	0.8422	0.8421	1.92	1.75	+97.11	+97.07	1.4721	1.4729	0.51	0.64	Screw Press
1.85	0.8423	0.8423	1.32	2.06	+97.41	+97.51	1.4719	1.4727	0.58	0.49	Pipkin Roll

process obtaining high yields of oil exceeded the U.S.P. standards due to this increase; whereas, the values for two processes obtaining low yields of oil met the U.S.P. requirements due to this increase.

As shown in Table 3 average values for the aldehyde content of oils produced during the 1947-48 and 1948-49 fruit seasons were 1.73 and 1.49 per cent respectively. The difference between these two valus shows a decrease of 16.1 per cent in the aldehyde content of oil produced during the 1948-49 fruit season. Apparently the dry weather had some physiological effect on the fruit which caused the aldehyde content of the oil to be lower.

Summary

Commercial methods of production of expressed orange oil in Florida during the 1947-48 and 1948-49 fruit seasons have been studied and compared. The physical and chemical properties of 98 samples of cold-pressed orange oil have been determined.

Quality of coldpressed orange oils, as indicated by their physical and chemical characteristics, is determined by the yield of oil obtained in any commercial process, regardless of the type of extraction equipment used. Climatic variations were found to be a factor which effected some of the properties of expressed orange oil.

The use of proper processing technique results in the production of cold-pressed orange oils in Florida which are of the highest quality and which consistently meet the specifications of the United States Pharmacopoeia. When manufactured carefully the quality of Florida orange oil is equal or superior to orange oils from any other sources.

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2. Guenther, E. The Essential Oils *1*:427. 1948.
3. Poore, H. D. Analyses and composition of California lemon and orange oils. U.S. Dept. Agr. Tech. Bul. 241:1–30. 1932.
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Tense Situation Ahead

THE next few months are bound to be tense. The United Nations has started an offensive in Korea. Whether the Chinese Reds come to the aid of their Red brethren is a matter of conjecture. If they do, the war is bound to be long, costly and could involve most of Asia.

Even with an early defeat of the Korean Reds, the Russian pressure will continue. The time for a showdown must come sooner or later. The political philosophies of Russia and the freedom nations can never be harmonized so long as Russia seeks to "convert" all peoples and governments to her way of life. Men under arms and weapons for offense and defense are expensive but necessary. We believe we are facing a period of heavier taxes to pay for domestic and foreign armament. A war economy seems to be just around the corner. Keep informed and make yor opinions known to your legislative servants, your Senators and your Congressman.—*James W. Roberts, committee on legislation, N. W. D. A.*

Initiative

INITIATIVE is probably the most important single force in the development of an individual, company, or a nation. It is a characteristic of our national and business life which is at once a commonplace and an irreplaceable ingredient in the future development of our country.

Initiative is what made Henry Ford tinker with the horseless carriage in a little shed and, despite discouragement and frequent failure, develop a machine that has revolutionized the world. It is the force that has developed our great system of railroads; it is what has put radios in 98 per cent of the homes of this country and is currently pushing television into a repetition of the spectacular success of radio. It is the force that developed the vacuum cleaner, the washing machine, the electric beater, the tremendously important group of antibiotic medicines, and the thousand and one things that have made life more full and more pleasant for the people of our country.

It seems obvious that the two essential elements in our favorable climate for initiative in America have been:

1. The freedom of the individual to exercise his initiative, and
2. The ability to earn economic rewards in proportion to accomplishment.

There are three important areas in which management can and must contribute to the development and preservation of initiative:

1. Management must encourage initiative among its employees.
2. Management must itself show initiative.
3. Management must work to preserve an economic system in which initiative is encouraged.

Initiative rests primarily in the individual. Management must therefore provide for its employees an atmosphere in which initiative will flourish. It must be receptive to new ideas. The company employee in all ranges of employment must be encouraged to suggest ways in which his job can be made more productive or more efficient. He must feel that he is being paid to think as well as to do. A mechanism should be provided whereby an individual can show initiative, can feel that his suggestions will be considered with eagerness and with imagination and will be tried out as they appear feasible.

Above all, management must provide incentive for employee initiative. It is fundamental that initiative must be rewarded. The incentive may be increased opportunity for promotion, it may be financial, it may take the form of recognition, or—better still—it may be a combination of all three. But the employee must feel that his company wants him to apply creative energy to his daily work and will be glad to reward that creative energy.

Management must itself show initiative.—*Neil H. McElroy, president, the Procter & Gamble Co. Abstract from an address at Harvard University.*

A prospect is an organization you didn't sell. An ex-customer is an organization you didn't sell right.—*Phoenix Flame.*

Speculations on the Biogenesis of Terpenes and Related Compounds

Observed isoprenoid regularity must not be considered as an isolated phenomenon. . . . Biogenesis of isoprenoid compounds is a probable course fitting into many related processes Nature is capable of realizing

M. G. J. BEETS, D. Sc.*

BERTHELOT[1] observed in 1869 the periodical architecture of the molecules of some terpenes, isolated by Williams and this observation may be considered as the birth of the well known "isoprene-rule" which has since then proved its far reaching validity and which has rendered such valuable service to structural analysis, chiefly in the field of the sesquiterpenes.

As a logical consequence several scientists could not resist the temptation to consider the rule not only as a pure mathematical tool for structural investigations, but also as a welcome indication on the course of chemical synthesis in the organism. Several hypotheses, all characterized by the assumption of a single fundamental building element with the carbon-skeleton of isoprene, e.g. isoprene, methylbutenal, isoamylalcohol, isovalericaldehyde, have been proposed.

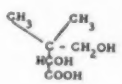
These theories however are all hampered by a certain rigidity. They give only satisfactory explanations for pure isoprenoid compounds but they fail to cover a broader field of pure-, partly- and non-isoprenoid compounds showing, either by occurrence or by structure, undeniable traits of relationship.

Characteristic Examples

This can be illustrated by some characteristic examples, which will offer at the same time the opportunity to venture some modified suggestions on the course of biosynthesis. Such suggestions can only be speculative in character, since they are merely based upon molecular architecture without considering biochemical data.

Senecioic acid (I) is a purely isoprenoid compound, constructed from one single element in the sense of the existing theories.

I



II

There seems to be some relationship of I with the nitrogen-free part of pantothenic acid (II) but the latter possesses an "abnormal" carbon atom in the form of an hydroxymethylene group. Recently, Olsen[2] proposed

* Research Dept., Polak & Schwartz, Holland.

Comment by

A. J. Haagen-Smit

Professor of Bio-organic Chemistry
California Institute of Technology

Dear Mr. M. G. de Navarre:

I have read with interest the speculations of Dr. Beets on the subject of the biogenesis of isoprenoid and related compounds. In a comparative study of this kind, the main value seems to me the establishment of certain building rules applicable to the naturally occurring products. From our present knowledge of the synthetic processes in plants and animals it is not likely that these reactions are simple condensations of substances such as formaldehyde, acetone, acrolein and many others which have been postulated from time to time.

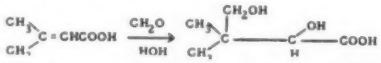
The organism is by its very nature greatly limited in the choice of its reactants as well as the reaction conditions. The biochemist, in contrast to the organic chemist, is much concerned about these limitations, and in attempts to unravel the mysteries of the biosynthesis it was found that nature follows pathways involving the use of complicated enzyme systems producing compounds which fit the conditions which make our type of life possible.

The most plausible theory about the formation of fats and isoprenoids stresses the importance of phosphorylated intermediates such as acetylphosphate, which, through enzymatic condensations and decarboxylations can form the straight chain as well as the branched isoprene type of compounds.

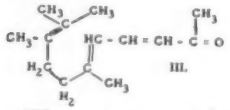
Speculations which Dr. Beets and others in the past have presented point to certain rules in the formation of large groups of natural products, and this should not fail to stimulate investigations along biochemical lines, which alone can provide an explanation of the actual way in which the biosynthesis proceeds.

Very sincerely yours,
A. J. Haagen-Smit

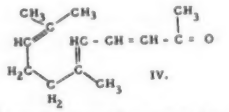
a possible chemical relation between both compounds in the sense of the Prins reaction.



A more complicated example may be found in the natural compounds irone and β-ionone. We may safely assume that both compounds are formed in the organism by cyclization of the corresponding pseudo-compounds III and IV.



III.

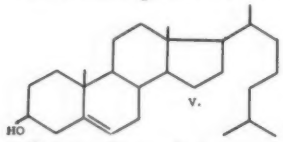


IV.

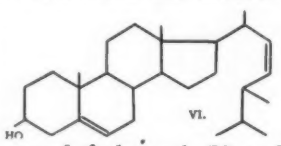
These structures show that both compounds must be genetically related to the highest degree and that principal differences in the course of their biogenesis are highly improbable.

Here too, we find the remarkable superposition of an abnormal monocarbon group on an isoprenoid structure.

The same phenomenon is observed in the sterol-se-



V.

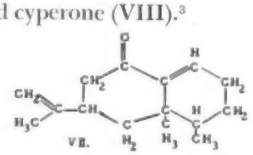


VI.

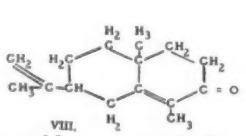
Comparison of the structures of cholesterol (V) and ergosterol (VI) shows, that in the latter the purely isoprenoid-structure of the side-chain, actually realized in cholesterol, is disturbed by a single monocarbon group.

These phenomena justify the conclusion that the abnormal monocarbon groups thank their existence to an abnormal building element with six carbon atoms or, and this seems much more probable, that they are created by a secondary process, in which an existing carbon chain is attacked by a monocarbon element. This would mean that biochemical methylation is not limited to hetero atoms such as oxygen, nitrogen or sulfur, but that the organism is also able to methylate the carbon atom.

An abnormal phenomenon of different character may be observed in the structures of eremophilone (VII) and cyperone (VIII).[3]



VII.



VIII.

Cyperone is a purely isoprenoid compound. In the sense of the existing hypotheses, however, we might say that nature has made a mistake in placing the angular methyl group in VII.

This phenomenon is instructive, because, if we venture the speculation, that these strongly related compounds are formed according to analogous building principles, the suggestion lies close at hand that also the occurrence of the "normal" methyl groups, or, more exactly, of the monocarbon groups, which form the characteristic element of isoprenoid architecture is not caused by the nature of the primary building element, but by secondary introduction in an existing carbon chain.

These considerations lead to the following more or less speculative suggestions.

a) Carbon methylation is an important principle in biosynthesis. It is responsible for the existence of the abnormal monocarbon groups in partly or non-isoprenoid compounds as well as for the normal monocarbon groups by which we recognize the periodical architecture of isoprenoid structures.

b) The primary building element in biogenesis of a large group of related pure-, partly- and non-isoprenoid products is a simple compound with a straight carbon chain.

c) The primary process in biogenesis of isoprenoid compounds is regular self-condensation of this element, by which an unramified carbon chain is formed. In this chain the reactivity with respect to a monocarbon element attacking the chain in a secondary process, is distributed periodically.

Consequently the attack of the methylating agent leads to periodical substitution of the primary chain by monocarbon groups and regular structures, known as isoprenoid compounds are formed. Finally, the product may be developed by other secondary processes such as reduction, cyclization, dehydration etc. into the structures, observed by the experimentor in the isolate.

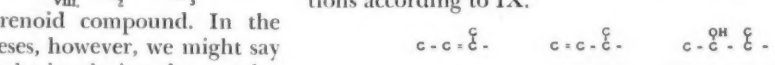
d) Premature intervention of other secondary processes by which the periodical methylation is prevented or disturbed may lead to partly- or non-isoprenoid products.

Exhaustive reduction of the primary chain for instance may destroy the reactivity of the chain with respect to the methylating agent (saturated, straight-chained compounds); premature cyclization may cause irregular methylation (eremophilone).

The normal regular picture may even be distorted beyond recognition when irregular self-condensation of the primary building elements takes place (ring A in the sterols).

As it seemed to be desirable to illustrate these suggestions by means of a theoretical model of biogenesis, the author tried to develop a picture by which many of the details observed in the structures of the studied natural compounds, are clearly and unambiguously expressed.

Besides the details, inherent to isoprenoid regularity, considered above, it seemed worth while to include the observation that the occurrence of monocarbon groups, normal as well as abnormal, is in most cases accompanied by other structural phenomena, i.e. by the presence of a double bond or a hydroxyl-group in positions according to IX.



IX

Before illustrating the suggestions developed in this article by means of a theoretical model of biogenesis, *the author wishes to make clear that this model is only meant as an illustration of principles, not as a new theory of biogenesis itself.* It can only contribute to a better and more systematic understanding of molecular architecture and biochemical construction, but it lacks even the slightest experimental connection with the real processes in the organism. Its only purpose is to show an alternative road to explanation of isoprenoid regularity which has the definite advantage over the existing theories, that it does not exclude the biochemical relation between isoprenoid, partly- and non-isoprenoid

compounds, the existence of which is probable in many cases.

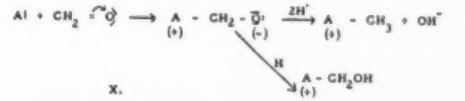
We have to make some simple assumptions for the construction of the model.

1st. The primary building element is acrolein.

2d. The methylating agent is formaldehyde.

3d. The principles of condensation are the Prins-reaction and aldol condensation.

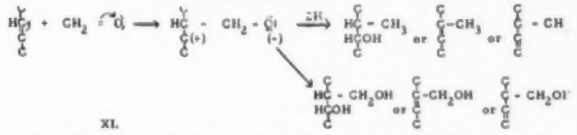
Formaldehyde is able to methylate any atom (A) in the possession of a free electron-pair and a methyl-group as well as a hydroxy methylene group may result from this reaction (X).



X.

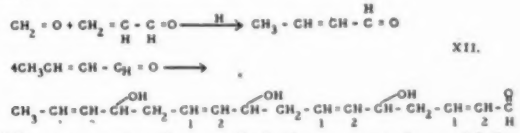
The process may be completed in several ways, e.g. when A is oxygen, a proton is furnished by the methylated atom itself.

The same reaction is possible with a polarized double bond (Prins-reaction) (XI).



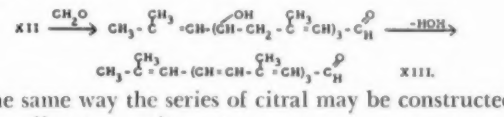
XI.

Application of this principle to acrolein leads to formation of crotonic aldehyde and from this compound a carbon chain can be formed by aldol condensation (XII).



XII.

With respect to the methylating agent formaldehyde, the hypothetical compound XII is characterized by a periodical distribution of reactivity. It possesses two sets of carbon atoms at which formaldehyde may attack, marked 1 and 2. We assume that maximal reactivities are situated in the centres 1 and carbon methylation, according to XI leads to a compound which, after dehydration, shows the picture of isoprenoid regularity in the form of a possible carotenoid progenitor of the type proposed by Karrer)[4] (XIII).

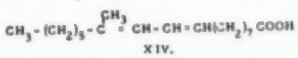


XIII.

In the same way the series of citral may be constructed, by coupling two units.

When, however, XII is subject to premature reduction by which the reactivity with respect to the methylating agent is destroyed completely, a saturated carbon chain is formed, which may be the progenitor of palmitic acid.

When periodical methylation is disturbed by premature reduction, methylated fatty acids, such as the interesting compound XIV, isolated by Hilditch[5] from *sterculia foetida,* may be formed.

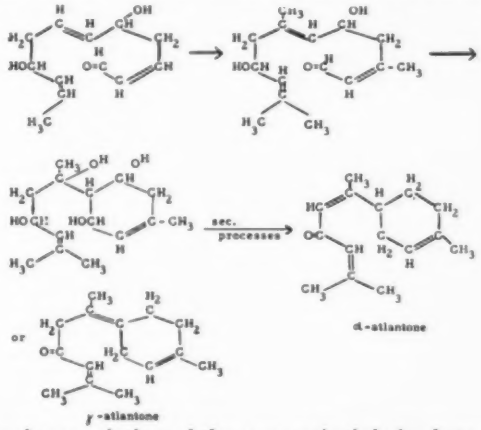


XIV.

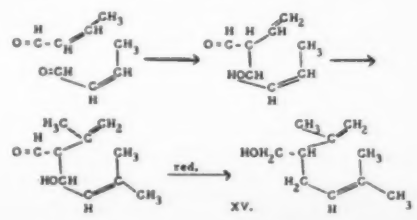
The Polak and Schwarz factories at Zaandam (top) and Hilversum (bottom), Holland, where the research laboratories are located.

In view of the possibility that a genetical relation between carotinoids and fatty acids exists, it is interesting to observe that, in the few examples of methylated fatty acids, not the total number of carbon atoms, but the number of the demethylated chain, is even.

As pure isoprenoid compounds do not offer new points of view we conclude this field with two less conventional structures, α- and γ-atlantone. Both may be constructed without difficulties from three units.

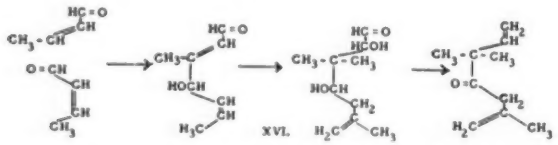


A minor variation of the same principle leads to construction of the irregular isoprenoid structure lavandulol (XV).



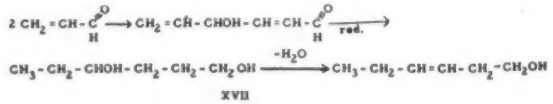
XV.

When Karrer's suggestion on biogenesis of carotinoids, viz, the reduction of the acyloin-group to a double bond is correct, also the remarkable structure of artemisia ketone (XVI) may be constructed.



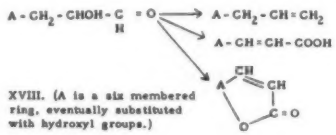
XVI.

Many natural compounds show structures, consisting of a multiple of three carbon atoms. Such structures may be formed by self-condensation of acrolein, without formaldehyde playing a part. We mention one of the simplest examples, hexen-3-ol-1 (XVII).



XVII

The same principle leads to construction of nonadienol. When cyclization takes place in a progenitor constructed from three elements, a structure of type XVIII is formed which offers connections with large groups of natural compounds, such as eugenol, safrol etc. (reduction of the acyloin group), cinnamic acid, caffeic acid, ferula acid etc. (dehydration and oxydation) and the cumarins (cyclization).



XVIII. (A is a six membered ring, eventually substituted with hydroxyl groups.)

(A is a six membered ring, eventually substituted with hydroxyl groups).

Even complicated structures as the sterols may be constructed without difficulty from one molecule of acrolein (ring A) and 5 normal crotonic-aldehyde-units. It is remarkable that the theoretical progenitor constructed in this way shows most of the structural details (double bonds, hydroxyl groups), observed in the natural compounds.

Finally, the author repeats that the purpose of this article is not to offer a new theory of biogenesis, but merely to make plausible that the observed isoprenoid regularity must not be considered as an isolated phenomenon which has to be explained by an isolated mechanism, but that biogenesis of isoprenoid compounds is only a rather probable course, harmoniously fitting in the many related processes, nature is capable of realizing. For shortness' sake, only a small number of examples, arbitrarily chosen, could be described as illustrations of the suggestion, laid down in this paper.

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3. L. N. Owen and J. L. Simonsen, *Endeavour 8* (1949) 26.
4. P. Karrer e.s., *Helv. 13* (1930) 1084.
5. T. P. Hilditch, M. L. Meara and Y. A. H. Zaky, *J. Soc. Chem. Ind. 60* (1941) 198.

There are times when it is better to keep your mouth shut at the risk of being considered an ignoramus than to open it and remove all doubt about it.—*Job Hedges.*

Austerity in Packaging

PACKAGING seems destined for a period of slowly spreading austerity as mobilization restrictions come into force. Higher prices of materials will give added emphasis to executives' demands for "something we can put our product in, and don't worry too much how it looks." The price trend in packaging materials, wood, paper and even printing inks, is upward, and shows little sign of reversing.

On the basis of continued strategic stockpiling, armaments production and maintenance of large military forces over the next three years, practical containers again will become the prime rule in packaging, both for military and civilian purposes.

This does not mean, it was noted, that there will not be good packaging. Despite allocations, limitations and priorities yet to come, it is felt that shortages can be eased by sensible economies, improvement of techniques developed during World War II to "stretch out" available supplies, and perhaps some increased production.

However, there will be less concern about "consumer psychology" and the part packaging plays in adding convenience to everyday living. Shiny "attractiveness" and "glamour" are destined for some dimming.—*Brendon Jones.*

Weight of Human Skin

COSMETIC chemists interested in data concerning the human skin may well regard as worthy of note the following details given by M. Leider (*Journ. Invest. Derm.*, 12, 187–91, 1949): If human skin is taken to include the average amount of fat, its weight is about 20 lb. for an average adult, i.e. about one-sixth of the body weight. Excluding the fat, the weight of skin is only about one-sixteenth of the total body weight—averaging 7 to 9 lb.—*Soap, Perfumery & Cosmetics.*

F. T. C. Becoming Human

IN A BUNCH of Federal Trade Commission releases dumped on this desk the other day there was one saying the Eberhard Faber Pencil Co. had agreed to "stop representing that its Mongol pencils stay sharper than, or are superior in point of sharpness to, every other well known pencil in the same price range." At the bottom of the page was this: *The stipulation was approved by the Commission in accordance with its policy of encouraging law observance in certain types of cases where there has been no intent to defraud or mislead.* The same announcement will be made in all cases where the advertiser can show his intentions were good. A bit wordy and stuffy, perhaps. But kind of nice. Is this evidence that the FTC is becoming human, while the rest of us are not looking?—*Printers' Ink*

To sell most effectively a sales representative must be able frequently to come up with an idea for helping a particular buyer solve a particular problem at a particular time. If he fails to come up with a new idea from time to time he will fail consistently to capture the buyer's interest.—*J. A. Proven.*

How to Formulate Shampoos

New possibilities offered by surface active agents. . . . How they may be used. . . . Reasons for some troublesome shampoo problems and suggestions for overcoming them†

H. W. ZUSSMAN*

CONSIDERING the wide variety of surface active agents commercially available, it is interesting to note that the cosmetic industry utilizes so relatively few of these materials in shampoo formulation. These favored products are almost, without exception, fatty acid soaps or fatty derivatives of the anionic type; they enjoy a sort of historical priority and this accounts, at least in part, for their preferred position. However, there does not seem to be any reason why many of the neglected materials may not find some useful place in shampoo manufacture if properly formulated or purified. One barrier to the more efficient utilization of available materials has been the development of some rather interesting misconceptions regarding surface active agents and the effects which they produce.

Misconceptions About Surfactants

A blanket objection often raised against synthetics is that they are excessively drying or defatting. The literature, however, is sadly lacking in evidence that the synthetics differ significantly from soap as to efficiency in removing fatty materials from protein fibers. Evidence of actual extraction from the skin of lipoids by aqueous solutions of detergents is also unavailable. There appears to be a division of opinion among dermatologists on such matters as permeability of the skin to water or its ability to absorb fat dispersed in surface active solutions. While there is no reason to doubt that surface active agents do remove surface oils from the hair and skin, it is well to bear in mind that these surface oils are excretions and, secondly, that the sebaceous glands are continuously replacing these surface oils. It might also be pointed out that at least some lipoid material on epithelial surfaces is in a "bound" state and is not readily removed under any but the most stringent conditions. Stoves (1) reported that the medulla of kolinsky fur fiber contained a lipoid-protein which will not yield its fatty component (sterol) on extraction with chloroform or with synthetic detergent but is hydrolyzed only by boiling with 7.5 per cent alcoholic sodium hydroxide for two hours.

In view of the absence of conclusive data on the removal of subsurface lipoids, it may be desirable to describe the so-called defatting reaction of synthetics in sensory terms. If the hands are washed with a relatively concentrated solution of purified neutral C 12 alkyl aryl sulfonate, a copious lather with good lubricating properties may be worked up. As the hands are rinsed and as the suds disappear, one becomes aware of the abrupt development of a high coefficient of friction making it very difficult to pass one palm over the other; a peculiar crackle is also produced. On towelling the hands a tackiness may be noted but this disappears on complete drying. If the hands are rewetted, the high coefficient of friction of the skin is again evident. This sensation is generally believed typical of ultra-clean skin. Now if this is true defatting there are several facts which are rather difficult to explain: (1) Short chain alkyl naphthalene sulfonates which are notoriously poor detergents and fat emulsifiers produce the same effects as the high molecular weight alkyl aryl sulfonates while oleic acid soaps, which are generally conceded to be excellent fat emulsifiers, do not "dry" the skin. (2) Real defatting of the skin with organic solvents does not produce effects similar to those obtained even with the most powerful neutral synthetic detergents. (3) The skin of the palms, where the "drying" effect of the synthetics is most pronounced, is notably lacking in sebaceous or oil secreting glands. These circumstances suggest that actual defatting of the skin may not be a satisfactory explanation for the phenomenon just described.

The effects produced on the skin by synthetics may be better described as "scroop" to borrow a term from the textile industry—this is a finish imparted to silk by treating with dilute organic acid. It is characterized also by a high coefficient of friction and a crackle or rustling sound when the silk is rubbed on itself.

Scroop Produced on the Skin

Going back to the demonstration of "scroop" produced on the skin by the alkyl aryl sulfonates, it will be remembered that after rinsing and drying the skin was considered clean. If the hands are now rinsed with dilute sodium carbonate (less than 0.25 per cent), it is

† Published by courtesy of the Society of Cosmetic Chemists.
* Alrose Chemical Co.

possible to work up a suds again; at the same time the normal feel of the skin is restored and now remains unchanged even after copious rinsing with pure water. The skin, of course, is presumably no cleaner now than before. This suggests that the sensation of an ultra-clean skin surface was produced actually by an absorbed film on surface active agent. Incidentally, if the hands are washed with alkyl aryl sulfonate at neutral pH in the presence of sodium sulfate, or at pH 3 to 4 in the presence of organic acid, the "scroop" effect produced is considerably enhanced; in either case, rinsing with dilute alkali restores the normal feel. C-12 alcohol sulfates and alkyl sulfonates of low salt content at neutral pH produce less "scroop" than do the alkyl aryl sulfonates. At acid pHs, however, the "scroop" is more pronounced altho not as fully developed as in the case of alkyl aryl sulfonates under comparable conditions.

Quaternary Ammonium Compounds

The quaternary ammonium compounds produce somewhat different effects. On washing the hands with alkyl imidazolinium chloride or cetyl trimethyl ammonium bromide at pH 7, one becomes acutely aware of the ridges in the palms and fingers; at alkaline pHs mild "scroop" is developed. In either case, after rinsing the hands thoroughly with water, a rinse with dilute acid will produce a very copious suds and the "scroop" will almost disappear—almost, because a rinse of normal skin with dilute acid alone will cause a slight increase in friction. With nonionic surface active agents "scroop" effects are not marked although adsorption seems to occur to a limited extent as evidenced by slight sudsing after rinsing with water followed by a pH shift to the alkaline side.

Drying Effects of Synthetics Explained

In short, the so-called drying or defatting effects of the synthetics may be explained in terms of adsorption phenomenon. Fortunately, the adsorption of surface active ions by proteins has attracted the considerable attention of textile technologists and biochemists. Work in this field has recently been reviewed by Putnam (2), Valko (3) and Harris (4). Complex formation between surface active ions and proteins is generally explained in terms of what is called "specific or intrinsic affinity" and electrostatic forces. At its isoelectric point a protein is considered electrically neutral. At pHs below its isoelectric point, the protein becomes positively charged and cationic in nature; under these conditions it combines with negatively charged colloids in which class are the anionic surface active agents. At pHs above its isoelectric point the protein becomes negatively charged and anionic in character; under these conditions the protein will combine with positively charged colloids in which class are the cationic surface active agents. The extent of protein-surface active ion complex formation is determined by hydrogen ion concentration and by electrolyte concentration. Actually, however, solid proteins do adsorb anions at alkaline pHs and cations at acid pHs; this is "explained" in terms of intrinsic affinity of the surface active ion for the protein.

Neville and Jeanson (5) in 1933 described the adsorption of lauryl sulfate by wool; at pH 1 the wool adsorbed 25 to 40 per cent of its weight of surface active anion from a 0.5 per cent solution. As the pH increased the adsorption decreased, although even above the isoelectric point of the wool adsorption is 2 to 3 per cent. Steinhardt Fugitt and Harris (6) investigated the adsorption of various anions by wool over the pH range of 1 to 6. While maximum adsorption of dodecyl sulfonic acid was approximately 25 percent at pH 2, at pH 6 one hundred grams of wool would still adsorb 1.2 grams of anion. It was also determined that complex formation was reversible, washing the protein with water resulting in the removal of the anion. Steinhardt also concluded from these and other experiments (7) that the affinity of anions for protein increased with molecular weight. Aicken (8) studied the adsorption of primary and secondary alcohol sulfates (molecular weight about 280) by wool. Adsorption was found to increase with increasing acidity to a maximum comparable to the acid binding capacity of the wool—about 80 to 100 milliequivalents per 100 grams of wool. At neutral pHs percent adsorption increased with increasing concentration of the solution and was also enhanced by the addition of electrolyte. Attempts to desorb the alcohol sulfate by soaking in water for 48 hours proved unsuccessful, in marked contrast to Steinhardt's results. Finally, reference might be made to the work of King (9) and Neville and Harris (10). The latter confirmed earlier work that wool immersed in neutral soap solution adsorbs sodium ions (cations) faster than it does fatty acid; this was evidenced by a rapid drop in pH of the soap solution. King earlier had analyzed soap solutions in which wool was immersed and had found that sodium ions were adsorbed preferentially and that adsorption of oleate ions or oleic acid increased as the concentration of the solution decreased. This behavior is in marked contrast to the behavior of the highly dissociated neutral synthetic surface active agents. The evidence would indicate, therefore, that conditioned as we are to the use of soap, the normal feel of skin is simply that produced by high sodium ion concentration and fatty acid adsorption on the skin surface.

Conditions Not Obtained in Short Shampooing

The truth, as some one said, is rarely pure and never simple; the data just reviewed must be considered critically. These studies were all made under conditions approaching equilibrium and with relatively dilute solutions. Equilibrium conditions are possibly not attained in the short shampooing operation and dilute solutions are obtained only during rinsing. The variations in complexity of detergent solutions as a function of concentration, are not yet fully appreciated; there is still considerable argument as to whether protein adsorbs large micellar aggregates, surface active ions or molecules.

Meeting Troublesome Shampoo Problems

The viewpoint just discussed appears to be, however, of some value in explaining and perhaps indicating the possibility of attacking some troublesome shampoo problems.

(1) The rinsing properties of synthetics are un-

doubtedly affected by their adsorption properties. Anionic agents should rinse better at slightly alkaline pHs; cationics should rinse better at slightly acid pHs.

(2) Harshening of the hair, unmanageability and difficulty in combing after shampooing may very well be the result of increases in friction such as that noted as the result of adsorption of surface active ions on the skin; adjustment of pH should overcome these difficulties.

(3) Surface active agents differ in the ease with which they lather on the skin or hair; often several latherings are required. While defoaming by the fatty acids present on the hair and skin is undoubtedly responsible for some of this poor lathering, adsorption of the surface active agent on the skin would, of course, render this material unavailable for lathering.

(4) Salts of surface active anions and slow rinsing organic bases might be useful in decreasing or eliminating the "scroop" effect.

(5) If it is desirable to duplicate the effects produced on the skin and hair by soap, synthetic surface active agents with carboxylic acid groupings but with better hard water properties, could be utilized. Materials of this sort have been described and have actually been found to be excellent skin detergents.

Conditioning Agents to Improve Softness

Experiments devised to determine the role of conditioning agents, unfortunately, have not been very successful. These materials—added to shampoo detergents to improve softness,—are generally nonionic agents, a typical example being lanolin. Addition of this and other materials to alkyl aryl sulfonates did not appreciably affect the feel produced. There is evidence, (11), however, that lecithin ,(a phospholipoid) and fatty esters of diglycerol do modify the adsorption properties of anionic and cationic agents on cell membranes as they inhibit germicidal activity. Incidentally, it is possible to demonstrate visually the adsorption of quaternary ammonium compounds on glass surfaces (12) by development of rainbow color effects when steam is condensed on the surface; the addition of a wide variety of nonionic agents did not appreciably affect the development of rainbow color, although the effect of pH was confirmed as in the case of protein adsorption.

The apparent contradiction involved in producing "scroop" on the skin by adsorption of surface active agents of the type used as lathering agents, and the producing of softness by other surface active agents may be resolved as follows: These latter materials are all C 18 straight chain compounds. The theory of lubrication as developed years ago indicates that such materials are much better lubricants than the shorter chain compounds of the type used for shampooing. Hydrophilic groups also affect lubricating properties. Aromatic character is also known to affect lubrication adversely. This all corresponds with the observation that alkyl aryl sulfonates and alkyl naphthalene sulfonates produce much harsher feel than straight chain alkyl sulfonates. It was thought that perhaps the feel and frictional properties of the skin might be due to the presence of hydrophilic groupings on the outer side of the surface active agent film. There is some evidence that this type of arrangement does occur in some cases. However, it has been found that regardless of the type of film which may be on the skin surface, water droplets do not tend to spread readily and the surface of the skin cannot be considered as particularly hydrophilic even when "clean".

Difficulty in combing the hair after using a synthetic detergent shampoo can be prevented by adjusting the pH of the shampoo.

There is little question that the work being done on combination of surface active ions with proteins is of considerable importance and significance to the cosmetic industry. Contributions in this field are appearing at an accelerated rate and while often difficult to follow because of highly mathematical treatments, well deserve the attention of the cosmetic chemist.

Soap in Hard Water Shampoos

Another common misconception is that soap is not suitable for formulation of hard water shampoos. There is no question that soap—especially coconut oil soap—has many desirable properties not easily duplicated by synthetics. Aside from the fact that soap produces the conventional feel of skin and hair, the lather produced by coconut soaps is excellent. It is copious, viscous and stable in soft water. It rinses readily in soft water. In hard water, the volume and viscosity of the lather fall and during the rinsing operation, the dilution of soap with large quantities of water containing calcium and magnesium results in the precipitation of the corresponding alkali earth soaps on the hair.

The inclusion of water softening agents in liquid soaps is now widely practised due to the improved availability of organic sequestering agents which are compatible with potassium and tri-ethanolamine soaps and which do not hydrolyze on storage in aqueous solutions. Typical of such products is ethylenediamine tetraacetic acid (Sequestrene). The neutral and alkaline salts form chelate complexes with calcium and magnesium (13) and thus prevent the precipitation of

soap by these ions. It is now possible to manufacture liquid soaps which often do not require refrigeration or filtering and which will not cloud in glass containers. The addition of a few per cent of ethylenediamine tetraacetate to a soap shampoo will prevent the decrease in lather volume and viscosity in hard water. Foam measurements on dilute solutions of soap and sequestrant have been made (13) and these results have also been confirmed for high concentrations of soap. Five per cent solutions of soap containing 0.5 per cent ethylenediamine tetraacetate, show no drop in lather volume or viscosity at 500 ppm. hardness as tested in a Waring blendor. This concentration of sequestering agent is also adequate to neutralize such hardness as may be encountered on preliminary dilution and rinsing of the lather. It is not adequate, however, to neutralize the hardness of all the rinse water used, and in all probability these organic sequestrants rinse faster than does the soap leaving it unprotected.

Preventing Precipitation

The precipitation of calcium and magnesium soap on the hair during dilution may be prevented by the addition to the soap of a lime soap dispersant. The function of this material is perhaps more correctly to retard the development of soap curds. The table compares the transmittance of 0.2 per cent soap solutions containing 0.02 per cent of various surface active agents at 25°C readings being made five minutes after making up the solution.

Transmittance of 0.2% K Coconate and 0.02% Dispersant in 200 ppm. $CaCO_3$.

K coconate only	66%
Nonionic ether	85%
Na lauryl sulfate	70%
Coconut fatty amide	81%
Nonionic ester	84%
Dodecyl toluene sulfonate	79%
Oleic amide sulfonate	84%

If these solutions are allowed to stand long enough, they will eventually all show the same low transmittance. One cannot, however, formulate soap and lime soap dispersant on the basis of these data alone. The foaming properties of binary mixtures of surface active agents are not predictable. The adverse effect of soap on alkyl aryl sulfonate foam is well known and has even been utilized to make nonfoaming wetting agents. Lathering experiments using high concentrations of soap and alkyl aryl sulfonate confirm the results obtained at low concentrations, although, strangely enough, the defoaming effect is not picked up easily in the Waring blendor test. Hand lathering experiments also indicate that the fatty amides of the alrosol type enhance lather at the same time retarding precipitation of the lime soap. None of these materials has the same effect on the lathering properties of the soap in hard water that organic sequestrants have. A mixture of soap plus lime soap dispersant does not show good lathering properties in hard water unless organic sequestrant is present.

Considering the number of years that shampoos have been manufactured and marketed, no one can complain that conditions in this field are static. Shampoos today account for over 50 million dollars in sales volume. The cosmetic chemist today must search constantly for new possibilities. Fortunately, he has an untapped wealth of raw materials still available to draw on.

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Why We Missed

NONE of us is all things to all men. Nobody is everybody's meat. We can hardly expect to get every account we solicit.

We can try to find out why we missed, when we do. What did we do or say that was wrong? What did we fail to do or say?

Then we'll go out and ring another (carefully selected) doorbell.

When we do secure a new account, we'll also try to find out why we succeeded. Maybe we will have learned something we can use again!—*Aesop Glim*

Department Store Sales of Cosmetics

JULY 1950 sales of cosmetics and drug sundries by 322 department stores, reporting to the Federal Reserve Board, were up 16 per cent over July 1949 which, in turn, had been down 6 per cent from July 1948 sales. Department store cosmetics sales in the first 7 months of 1950 were 3 per cent ahead of such sales in the same period in 1949.

The value of department store stocks of cosmetics at the end-of-July 1950 was 2 per cent higher than at the end-of-July 1949 which, in turn, had been down 6 per cent from stocks on hand at the end-of-July 1948. In relation to sales of cosmetics during July 1950, department stores had on hand, at the end-of-July 1950, about 3 months and 12 days' supply of cosmetics.

Cosmetic Excise Tax Collections

Tax collections for the period ending September, 1950 are:

	1950	1949	1948
January	$ 9,836,052	$ 9,648,063	$10,371,512
February	11,654,681	12,984,776	12,290,714
March	6,811,063	6,796,181	6,927,991
April	6,985,099	6,913,884	6,927,991
May	8,316,993	6,983,445	6,660,851
June	8,136,742	7,625,450	7,283,509
July	7,965,373	6,776,881	7,332,070
August	9,671,335	7,807,221	7,506,518
September	7,542,472	6,859,446	6,890,757
October		6,760,409	6,335,804
November		7,738,779	6,872,541
December		7,312,007	8,079,746

● *Smart* shoppers choose *smartly dressed* products. Pack to attract in crystal clear Maryland Glass. It's easy . . . and economical, too.

A wide variety of smart, graceful designs in a complete range of sizes is always carried in stock for your convenience . . . ready for immediate shipment.

Just drop us a line and tell us the nature of your product and the sizes in which you pack it. We'll send you appropriate samples and complete details. No obligation, naturally, so write today.

MARYLAND GLASS CORPORATION • BALTIMORE 30, MARYLAND

pack to attract in

MARYLAND GLASS

Old-time perfume flacons from the Paris Collection of the late Leon Givaudan

there's more to a perfume than meets the nose

When one thinks of Nature's perfumes there comes to mind rose and jasmin, lilac and orange flower—and always muguet. The elusive odor of that modest flower has grown in popularity and the use of muguet specialties has expanded far beyond the scope of the lily-of-the-valley perfume. For such versatile possibilities, Givaudan presents

MUGUET 31

Already renowned in the muguet field with its enviable *Muguet Fleurs 16*, Givaudan perfumers have utilized their incomparable experience with this odor to develop the moderately priced *Muguet 31*. Here is a product usable in toilet waters, powders, creams, lotions and soaps, where it will prove invaluable in the development of a total floral harmony.

Greater Distinction through

Givaudan-Delawanna, Inc.

330 West 42nd Street, New York 18, N. Y.

Branches: Philadelphia • Boston • Cincinnati • Detroit • Chicago • Seattle • Los Angeles • Montreal • Toronto

THIS YEAR... MAKE A BETTER SUN TAN PRODUCT WITH 2 IN 1

Sunaromes©

"O" — OIL SOLUBLE
"W" — WATER SOLUBLE

Sun Screening & Perfuming agents combined!

Just mix Sunaromes with the base you prefer . . . water-gum, water-alcohol, or even water alone. You can also use a cream base, mineral oil, fatty oil, etc. It's the Sunaromes that make them effective sun screens . . . and scent them so attractively. The protection is positive . . . and there is no problem of skin irritation.

WRITE TODAY FOR COMPLETE DATA, FORMULAS & SAMPLES WITHOUT OBLIGATION

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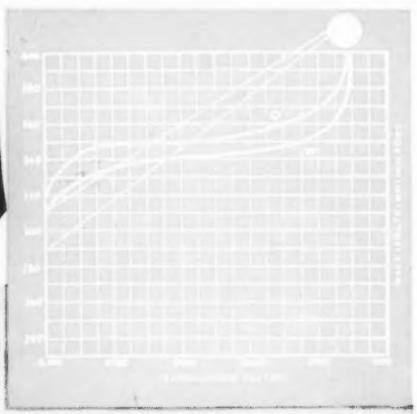

- SUNAROMES completely screen out harmful rays of the sun between 2900-3100 angstrom units.
- SUNAROMES permit sufficient of the actinic rays to reach the skin for a beautiful and healthful tan.
- SUNAROMES combine a perfect and tested sun-screen and a wide choice of perfumes, soluble in all media, for easy and simple manufacture.
- SUNAROMES are economical to use.
- SUNAROMES are non-irritating to the skin and stable in the finished preparation.

SUNAROME Trade Mark
Registered U. S. Pat. Off.

SUNAROMES PROTECT AGAINST THESE SUN-BURNING RAYS!

AROMATICS · PERFUME BASES · ESSENTIAL OILS

FELTON CHEMICAL COMPANY, INC.
599 Johnson Ave., Brooklyn 6, N. Y.

PLANTS: Brooklyn, N. Y. • Los Angeles, Cal. • Montreal, Que. • Paris, France
SALES OFFICES: Atlanta • Boston • Chicago • Dallas • Philadelphia
St. Louis • Toledo • Toronto

Stocks Carried in Principal Cities

What the Retail Buyers Report

Rising cosmetic tax collections indicate that the boom in sales at the retail level is continuing . . . New sales ideas producing results in the Mid West . . . Outlook excellent

BUSINESS in cosmetics at retail levels continues to be good. The jump in cosmetic excise tax collections of almost two million dollars for August over the previous year and the steadily mounting collections indicate that the tide of sales is steadily rising. Record sales over the Christmas holidays are expected. New cosmetic products, new and ingenious packages and clever sales ideas have all contributed their part. Lipstick testers have been found to be of much help in saving the time of salesgirls in making sales in the exclusive Chicago suburbs. Home permanent waves appear to be slipping in favor of pin curls. Over twenty major lines sponsored cut price sales in the middle west on slow moving and in some instances discontinued items. On the whole the industry is on a sound basis and the outlook for the coming year is most promising.

Specialty Shops Making Sales by Appealing to Teenagers

Chicago—As of this writing American perfume manufacturers will be forced to sell contents and not bottles. Every retail buyer throughout the Middle West has long been complaining that the contents of the bottle did not last—long. That is throughout a day. With the introduction of a new type (to American consumers) bottle and a fragrance that lasts on the skin over-night the perfume essence so popular in Paris has arrived.

Plain Perfume Bottles

Every conscientious buyer has realized that in many instances it was the bottle into which much of the production cost went. Today, it is expected that the plain, but effective bottles offered by two leaders, will produce an increased perfume sale and equally as good sale on the fancy bottles which are a separate item in all cosmetic departments. Usually these have been chosen and featured as more or less a "collector's item" but from now on two sales can be made for many months ahead.

Fragrance Instruction

The new stronger than cologne fragrances are already demanding a new technique which few of the average store customers have. Perfume, to be effective, must be subtle. Already complaints are being registered with personnel departments about the "heavy" odors that emanate from some of the girls. Too often it is the older woman who has splashed it on, rather than used a spray.

"Please tell them," begged a buyer, "that we have miniature containers for the purse which permit a drop to be applied and two or three are enough until closing time. With spaces closed up or air conditioning on, over-perfumed women can be just as distressing to one's olfactory organs as where a deodorant is needed.

Fragrance, according to Mr. Webster is a fresh and pleasant odor. To maintain this, instruction is needed. With fragrances for the teenagers there is no reason why this instruction should not start early, as any mother can attest when her three-year old tries every fragrance on the toilet shelves! That same overpowering effect is apparent in buses, trains, offices and stores.

The Line Girls

The line girls of any company are expected to be an important asset. Too many of them in middle west stores are in a state of apathy. It is not the weather. It is a superior attitude of their ultra-importance.

If, Mr. Manufacturer, your sales are slipping don't blame the store for its lack of cooperation but make a check on your own line girls. The other day a woman stopped to "sniff" at one of the first half price sales of an outstanding line. After sniffing several of the fragrances a clerk approached. "Something for you?" she asked, having heaved herself off a stool where there were three clerks in a huddle and a dozen customers at the counter.

"I'm just sniffing," was the reply.

"Well, go ahead and sniff," was the saleswoman's reply in one of the best known of the larger stores in the middle west.

Now any customer can sniff and if rightly approached that woman would have made a purchase, but she is definitely "off" that line because of indifference of a "line" girl. Any number of instances could be repeated, from the half-hearted glimpse of your eye to determine any shade for eye-make-up to showing you an assortment of lip-sticks without any comment. The customer, Mr. Manufacturer, expects YOUR girls to know what is best for them. Or are they not supposed to be specialists in their field? Maybe we've been wrong and they are only check writers.

The specialty shops are showing a new trend in clever advertising, stressing their appeal to the woman who

Emulsifiers

Soapless, Neutral and Acid Emulsions

Lanolin Absorption Bases

PROTEGIN X—*For Nite Creams and Ointments.*

ISO-LAN—*For Creams, Lotions and Ointments.*

Tegacid . . . Glyceryl Monostearate — Acid Emulsifying. For greaseless, medicated formulations, anti-perspirant creams and ointments.

Tegin . . . . . Glyceryl Monostearate — Self Emulsifying. For neutral greaseless creams, lotions, ointments, suntan creams.

Tegin P . . . Propylene Glycol Monostearate—Self Emulsifying. For greaseless creams, lotions, ointments, brushless shave creams, cosmetic stockings, suntan creams and lotions.

Tegin 515 . Glyceryl Monostearate — Non-Self Emulsifying. Used in conjunction with other auxiliary emulsifiers.

PRESERVATIVES

Esters of Parahydroxybenzoic Acid

TEGOSEPT M TEGOSEPT E TEGOSEPT P BUTYL TEGOSEPT BENZYL TEGOSEPT

ANTIOXIDANTS

PROPYL GALLATE ETHYL GALLATE

Inhibit Rancidity, Preserve Flavor in Edible Fats

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CHEMICAL CORPORATION

153 Waverly Place, New York 14, N. Y.

SERVING INDUSTRY FOR A QUARTER CENTURY

SALES REPRESENTATIVES

BOSTON • CHICAGO • LOS ANGELES • ST. LOUIS • MONTREAL • TORONTO

needs finer cosmetics to retain youth, and in contrast to the teenagers. Leaders in both fields report excellent results. Emery, Bird, Thayer, Kansas City has followed this plan with substantial results. Chas. A. Stevens & Co., Chicago, has found it a good sales program. Lord's, Evanston, has made a direct appeal to the teenagers and their college sisters of which there are several thousand in that vicinity. Wieboldt's Evanston store is another making a direct appeal to the younger group who have blotched skins with results that are short of miracles.

Lipstick Testers Needed

Evanston stores have an idea they'd like to have developed. This is lip-stick testers with just enough for say two or maybe three applications, and the way these young people use the stick it would last about a day and a half. "It would save us taking a half hour to make a sale," said one buyer. "These girls want the exact tint and usually we have to pull out most of the stock before the one is found that they think will do. A couple of testers would help the girls, and us, buy and sell more intelligently."

Another complaint among stores selling to the younger crowd is that manufacturers have incorporated into the most innocent looking sticks a trick inside so that any other make just doesn't stay in. The girls who seem to eat lip-stick, with their milk shakes and hot-dogs, are irked about this and wonder why holders cannot be standardized. That, of course, is a manufacturer's problem and he has, probably, no intention of changing over to meet his competitor's holder!

In The Middle West

Permanents are slipping in favor of pin-curls because these are quick and easy. One of the newer lines of permanents was featured at a cut price in half a dozen leaders in that many cities but Boston Store, Milwaukee was the only store which indicated the lower price was due to discontinuing the present package! This same city ran a recent newspaper article on perfumes, and one on lipsticks and illustrated it with a color three-column cut. It was one of the smartest and most intelligent this reporter has ever seen.

Discounts Boost Sales

Soaps are selling well and hand lotions are active. Over 20 major cosmetic lines, from soaps to lipsticks, from creams to powders, from masks to foundation creams and virtually all types of fragrances were offered at 50 to 70 per cent off throughout this immediate market last month. Sure, business is good. Kansas City enjoyed good returns on its ads: Des Moines also, St. Paul offered two new items in one line at *regular* price; Minneapolis combined sales and new lip and nail colors, the latter regular, the same was true of Detroit, Milwaukee, St. Louis went big on drug store sales.

Golden Rule, St. Paul and Goldblatt's, Chicago, went in for full page ads on "Beauty Festival." These competed with drug store page ads offering equally as many half price sales and with the longer hours doing a land-office business.

Women are now awaiting sales, rather than buying at regular price. Style has its place, but it can also wait for the sale!—*Jean Mowat.*

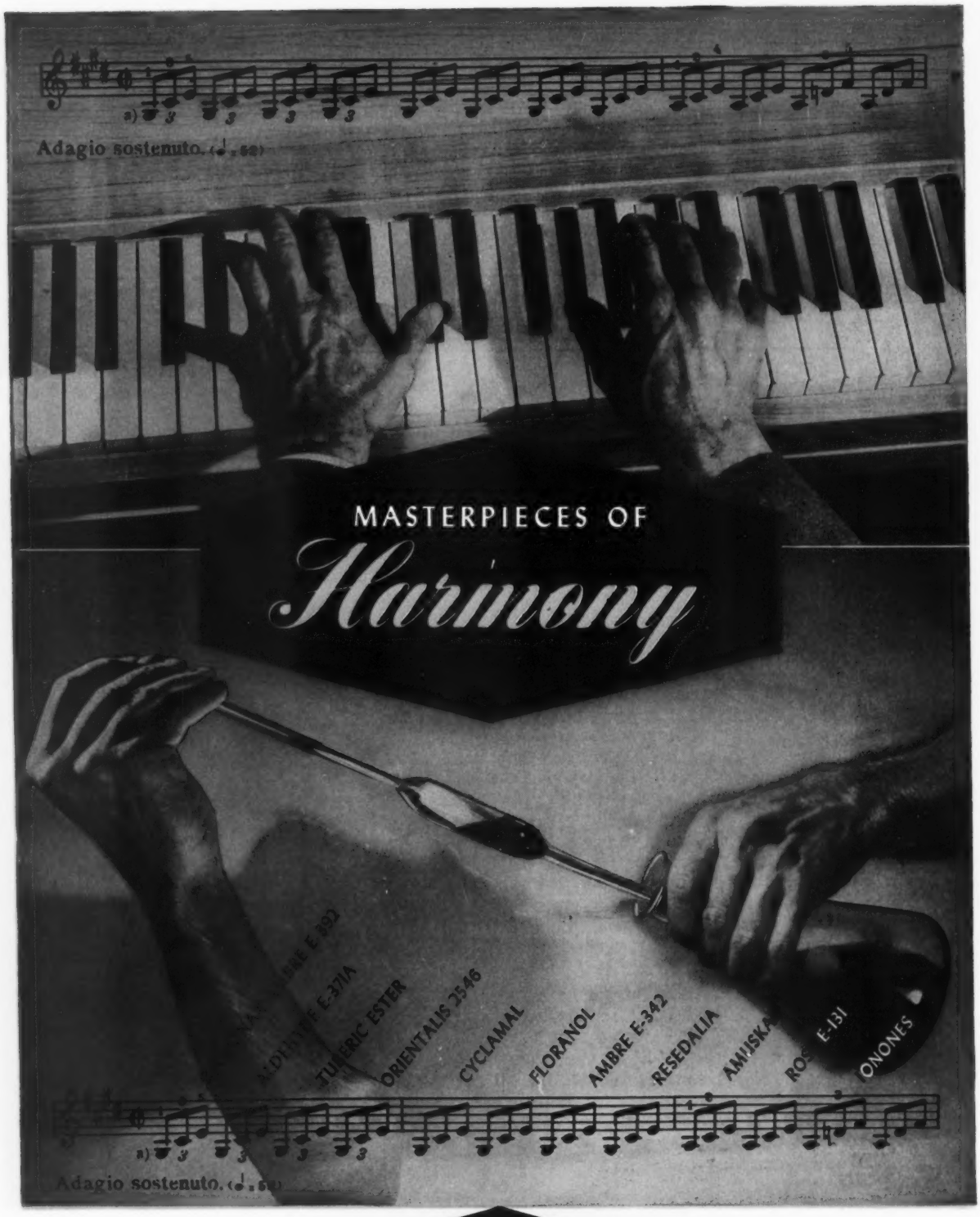
Salesgirls Invite Prospects by Phone to Inspect Expensive Perfumes

Los Angeles—And now come perfume days. In all department stores on the Coast buyers are perfume minded and other items in the department fall back to make room for perfumes.

That is one of the things that the Fragrance Foundation is trying to overcome, of course,—the seasonal emphasis on perfume, and everybody in the business should be helping. Actually the seasonal impress of perfume is principally, if not wholly, in the commercial end of the business. We don't think that perfume users start seriously considering the increased *use* of perfume in November and December. Perfume is used all the year round, and while the gift seasons will always bring an increased sale of perfume, as they do for jewelry, such gift acceptance of perfumes could be emphasized by the presentation of the de luxe editions.

This year the stress is pronounced. We note a ready acceptance by the stores of the most expensive perfume presentations. Christian Dior brought out a new $50 and $100 presentation in three colors, and even though the $100 package is in one fragrance, stores are quickly stocking it in all three colors. Retail selling of these expensive presentations will be specialized. That is, instead of placing these $100 packages on display and waiting for a Texas oil man to come along, buyers plan to have their perfume girl go after their prospects. Not in person, of course, but by telephone,—suggesting that Mrs. Gotrox come in at her first opportunity to inspect the rare, unusual, impressive collector's item that she, the perfume girl, has set aside for her. We saw this type of selling at the Bon Marché, Sacramento last September, where the buyer, Edith Sagaloff, took an order for two $65 bottles of perfume from the salesman's sample before the order had even been sent in. In a sense, this stress on perfume selling this fall, even though it is seasonal, will be helpful to the Fragrance Foundation,

What appears to be the largest compact in the world is used by Macy's in New York, the largest store in the world, to feature a new powder. The display shows all six shades in the over-sized case.



A lilting tune, a delightful fragrance... each depends on the harmony of its *notes*. The purity and fineness of Verona aromatic chemicals will help you achieve harmony in your products and add a fresh *note* of distinction to them.

VERONA

AROMATICS DIVISION

VERONA CHEMICAL COMPANY

26 VERONA AVENUE
NEWARK, N. J.

for with a quantity of perfume in circulation the general acceptance of it will be generously stimulated.

A real furore was created out here by the presentation last month of an imported from France perfume in a two ounce bottle to retail for $9. The presentation was made by one of the top perfume houses, and the acceptance was widespread. But reaction was varied. One buyer of a top store who advertised it was unmercifully called down by the president of the store, and the merchandise yanked. Another bought it reluctantly under pressure from upstairs. Still another buyer bought it because she felt that any presentation by the sponsor is sufficiently important to call for coverage by the stores, but she stowed it away in a drawer "just to have it for calls." At present writing consensus seems to be that few buyers are in favor of it.

Feeling is strong out here that this will be a booming holiday season. After all, election is over, and no matter what happens, the season will be sufficiently advanced to carry through.—*Don Cowling.*

Absence of Newspaper Promotion Retards Sales of Cosmetics

Pittsburgh—Pittsburgh's newspaper strike—involving all three metropolitan dailies—put the skids on cosmetic sales in this area.

Every sales person interviewed reported an almost identical story; "We have to work like mad to make sales", they said. Asked what the bulk of the trade consisted of, they had found women came in to buy only essentials like cold creams, lipsticks, powder, shampoos and other staple items.

With no promotions, customers ask for well known brands and are skeptical about buying any item with which they are unfamiliar.

At this writing, with the strike still in progress, future sales plans are "up in the air". Even the promotions started and which had excellent displays (like Houbigant's 175th Anniversary) have fared badly.

In the soap departments, which had an earlier flurry when scare buying was briefly encountered, considerable interest has been noted in novelty soaps imported from Vienna. Colorful, clever and different, many soap collectors have been buying a wide assortment. This specific interest has prompted plans to follow through with the "collector's item" theme for the holidays. This applies to both domestic and imported soaps.

The demand for empty plastic bottles continues. The manner of packaging for travel use, coupled with the wide assortment of sizes, shapes and models now available continue to bring sales.

The spray type plastic bottles are still new to many people who have encountered them only in certain types of merchandise until now. Although plastics have been available for some time it appears that the field has not been extensively cultivated and even more business can be expected in the future.

One sales girl lamented that more girls in the department could add to their totals for the day if they had handy the correct type of extra plastic container to sell with products that came in heavy glass jars or bottles. Individually the plastic containers cost little, she said, and therefore they presented an easy sale to customers.—*Lenore Brundige.*

Alert Retailers Capitalize Football Crowds to Boost Cosmetic Sales

Dallas—Highlight for the fall season so far as the cosmetic counters are concerned is the weekend of the Texas-Oklahoma afternoon football game and the Texas State Fair when thousands of visitors jam Dallas . . . almost all of them looking for gifts to take back home. This year an additional football game was scheduled for the same evening . . . a contest between Southern Methodist University and Oklahoma A. & M. This meant two complete sell-outs for the Cotton Bowl which holds some 87,000 people. Then, too, four standing-room-only performances of "South Pacific" were scheduled in the huge Fair Park auditorium.

Department stores and chain drugs alike prepared for this big weekend by making quantities of gift merchandise readily available and prominently displayed. Display windows were used to a large extent. Several stores scheduled additional practice sessions for their clerks so that they could put their fingers immediately on merchandise . . . and also be quick with gift suggestions for the fans.

Several survey calls to stores on the Friday before the game revealed that by late that afternoon, cosmetics already had done a land office business. Clerks reported more interest in perfumes of the more expensive variety had replaced a former interest in moderately priced colognes. Attractively wrapped gift packages were popular.

Particularly ready for this on rush was Sanger Bros. which just a month ago opened a new and larger cosmetics division. Approximately three times larger than formerly, this department now occupies an impressive portion of the main floor of the large department store. In addition, the department now has permanently and continuously two of the good street display windows. The department head reports that increased traffic already is being felt certainly traceable to the new space. A recent promotion at Sangers on Marie Earle products was highly successful.

"But the perfume can't be any good. Only men are buying it!"

Rhodinol

Synthetic-Synfleur

$22.00 per trial lb.

Rhodinyl

Acetate Synthetic-Synfleur

$24.50 per trial lb.

Because of the unprecedented price rise of Geranium Bourbon and its derivatives, we recommend the use of Rhodinol Synthetic-Synfleur and Rhodinyl Acetate Synthetic-Synfleur, as complete or partial replacements of their natural counterparts.

Both are chemical entities scientifically developed to duplicate the properties of their corresponding natural aromatics in strength, odor value and physical constants.

Rhodinol Synthetic-Synfleur may also be used as a replacement for Rhodinol in the synthesis of all Rhodinyl esters.

Order a trial lb. or request a working sample today.

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ATLANTA • DETROIT • HAVANA • RIO DE JANEIRO • MEXICO, D.F.

CHICAGO • MELBOURNE • BURMA • HONG KONG • BOGOTA • SAN JOSE
CIUDAD TRUJILLO • GUAYAQUIL • GUATEMALA CITY • CALCUTTA • WELLINGTON
MANAGUA • PANAMA • ASUNCION • MANILA • SAN SALVADOR • MONTEVIDEO

A. Harris and Co. has used several corners in front windows to promote Houbigant's 175th anniversary offers with definite interest shown.

Neiman-Marcus sent out an attractive mailing piece on Estee Lauder's home facials which resulted in numbers of calls. These Lauder products, introduced to Dallas by Neiman's have been very well received, the store reports.—*Jean Shaffer.*

New Products Get Edge on Sales in Cincinnati Area

Cincinnati—It was a good month, but cosmetics departments were having to work harder to meet their figures than they did as fall began. All buyers planned to cram their counters with Christmas merchandise as soon as it started to arrive.

A new treatment line at Rollman, introduced through newspaper ads, brought gratifying results, and the Dorothy Gray half-price cream special was "tremendous" at Mabley. Barbara Gould's night cream (the $2.50 size for $1) was doing well, and Frances Denney's Oil of the Wilderness was red hot.

There were two outstanding hits: Dev and Hands-Up. The first, a tiny bottle of wrinkle-remover at $3, brought a deluge of phone calls to the *Cincinnati Post* which had run a beauty story on it, and the stores carrying it reported a deluge of buyers who did not flinch at the price. Lady Esther's Hands-Up, the make-up for hands, brought a slightly smaller response on both counts. Hand preparations were selling well.

Revlon's "Where's the Fire" shade was already popular in lipstick and nail lacquer. The new Tip-On (ball-pen type of nail enamel applicator) was doing very well, and a lucite perfume atomizer with a flower in the center was moving so fast that it couldn't be kept in stock (at $3.95). Hilda Friend didn't do as well here with her cosmetic for the hair (a brush-in, wash-out tint) as she had in other cities.

Deodorant sales were slightly down, but will be promoted as usual on a 12-month basis. The sale of stick scents was slowing.

There was pessimism over Coty's announcement of the price increase in powder. All buyers felt that other manufacturers would follow and one expressed the opinion that it would send customers straight to the dime stores for smaller sizes of powder.

Stores which plan to carry Evyan's new "Golden Shadows" and Ciro's "Acclaim" and Faberge's "Act IV" all expected to promote it and to do well thereby. Charles of the Ritz counters on three floors of the H. & S. Pogue Co., all consistent moneymakers, did extra well the week of Adrienne Stratton's visit. The department manager there insists that all three counters be maintained in order to catch all possible traffic. He mentioned, too, the growing trend of placing stools at cosmetics counters for customers who like to sit. This same store planned the manufacture and introduction of a rosewater and glycerin soap, though its own Forace soap had walked out (6000 bars of it) in a reduced-price event during a store-wide sale. Pogue also planned promotions for Tintair (which should do well here, because of an intense interest in all new hair products) and Ann Havilland's new "Jasmin of the Night."—*Mary Linn White*

Solid Colognes Likely to Sell Steadily All Year Round

Buffalo—The upsweep which asserted itself in last month's toiletries purchases in Buffalo has extended itself into this month's tally.

At J. N. Adam's, perfumes have settled into a solid increase with solid colognes carrying over well into Fall, no decrease in the "solids" having yet made itself apparent. Which leaves the conclusion that solid colognes have found their place in the year-round schedule of use, instead of having to be confined to Summer enjoyment. As a year-round traveling companion, their advantage cannot be emphasized strongly enough—a fact that can be put to good advertising advantage by the manufacturers.

Among the top fragrance preferences at J. N. Adam's are those of Faberge, Dana, Lelong and Evyan (White Shoulders). Hair goods items continue their terrific volume here, with $4.95 hair dryers an outstanding seller—lending proof positive to the solidity of home-done hair, as it were.

In the facial foundation lines, the John Robert Powers fluid foundation and Revlon's Touch and Glow share top honors here. The increased popularity of nail polishes, especially Revlon's frosted type, remains. Treatment lines show an upward trend, with Denney, Rubinstein and Hudnut the three lines most in demand.

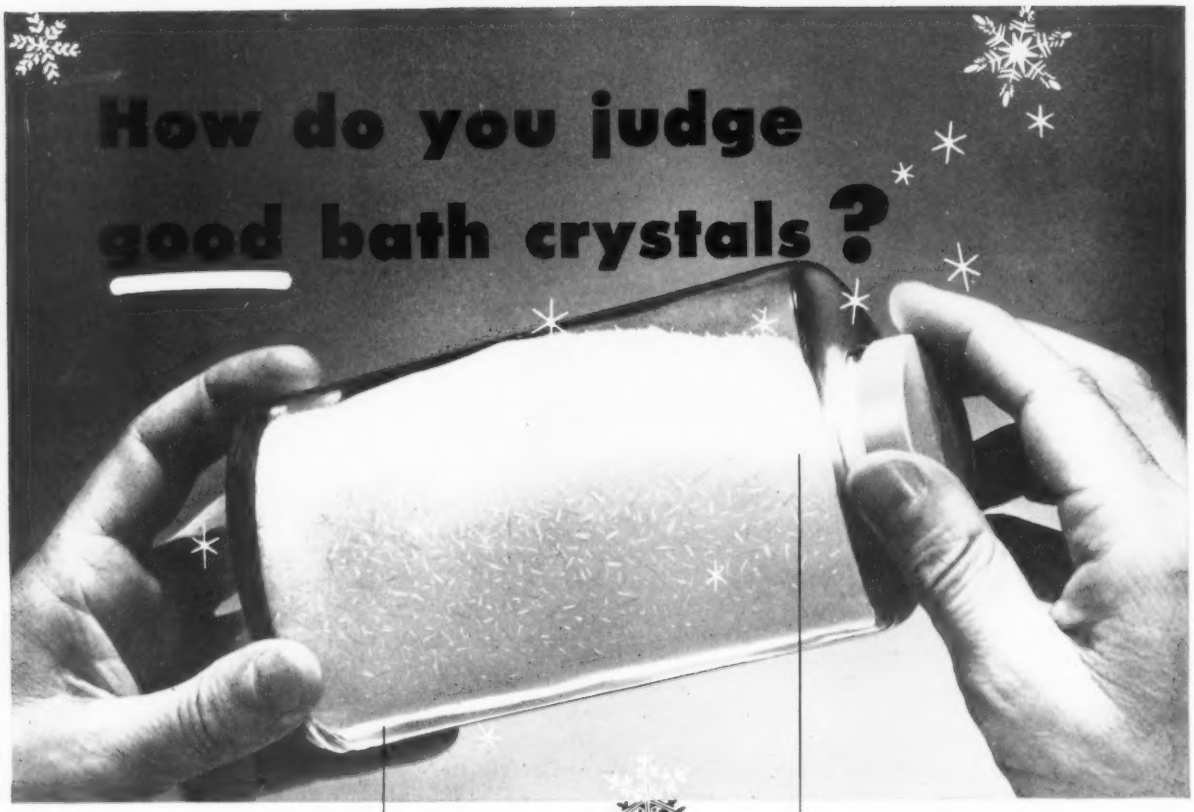
At the William Hengerer Co. a promotion on Milkmaid's Coloristic non-smear, indelible lipstick went over with a huge bang. A focal counter inside one of their central front doors had been transformed into an enchanting dressing table, embellished with an attractive sign reading, "Let Milkmaid Chart Your Milky Way to Beauty." Results were sensational, with almost equally as many $1.50 general-type Milkmaid lipsticks being sold as the special $1.00 coloristic type!

New Hair Tints Sell

Another item enjoying wonderful success at Hengerer's this month was the new Color-Comb at $1.98, which combs through your hair any hair shade of your preference. The shampoo whip of Helene Curtis, retailing at $1.00, sold with an initial boom and proved a solid stayer. Other items off to a good start included "Pinky," the dip-in jar of polish remover . . . "Tip-It," the new nail polish applicator . . . and "Scrub and Live" from Gene Salee of California—"Scrub" being a grainy cleanser and "Live," a medicated cream for sensitive skins, each retailing at $2.00 plus tax.

Considerable flurry was caused by Rubinstein's Blue Vixen and Red Hellion—two separate combinations of hair tint and lipstick to match. Arden's moisture cream and oil have shown a decided increase in the past month . . . and men's toiletries have soared considerably since the beginning of the Korean War, gift packages being chosen regularly from the lines of Seaforth, Courtley and King's Men.

Christmas buying has already begun to make inroads on Hengerer's stock, the first burst of it being felt in the Coty gift packages featuring compacts, face powder, and a box of dusting powder—presented in a cleverly contrived doll package.—*Maggie Flemming.*



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Spray Deodorants Falling Behind Emulsion Deodorants in Sales

Atlanta—Fall came late to cosmetic counters this year. However, situated in an area where Autumn is wont to arrive a little later than elsewhere in the country, Atlanta's beauty aislers were not unduly concerned when business went into a slight nosedive between the seasons.

For one reason, they had managed to make quite a bit of hay while the sun shone this Summer, aided by special sales when the going slowed down. And for another, they know that they can always expect a general nudging of the cash registers when the days get brisk.

So, as of the moment, the beauty business is resting on its laurels. Straws in the wind point to a good season, generally, with sales climbing steadily toward a crescendo of Christmas business. Special promotions have and are expected to continue to help accelerate the beauty trade. Rich's, one of Atlanta's biggest department stores, chalked up some nifty cosmetic figures during their annual Harvest Sale, which is a store-wide affair. Davison's, another department store, has kept the home fires burning, with smaller spot sales. Soaps have continued on the best seller lists as have hair preparations, treatment lines are holding their own, but colognes have slipped slightly from grace.

It has been a particularly good season for liquid foundation powders, particularly Anatole Robbin's Prismatic makeup, a continuing sell-out. And it looks as if it is going to be an even better one for hair tints. Helena Rubinstein's newest shades, Red Hellion and Blue Vixen were in demand even before the stores could stock them.

As of this moment, cosmetic departments have not been touched by any of the scare buying. When and if the hoarders get around to cosmetics, imported perfumes will probably be the first to succumb.

It has been interesting to note the big splash that each new spray deodorant makes, they ride the crest for a few weeks or so then fade out of the picture, as people go back to their old familiar brands. Now some of the new emulsion deodorants, from Charles of the Ritz and Milkmaid in particular, look as if they might stick around and do all right.—*Maynita Gerry.*

Instruction for Sales Girls from Manufacturers Sought

New Orleans—Manufacturers' demonstrators are still a good drawing card here if the representative is well informed. Otherwise the interest is small. One buyer commented that some of the demonstrators know less about their product than the sales girls and that a representative who can teach the saleswomen about the product is a genuine help and creates selling technique.

One large store commented that the style show they held recently which featured cosmetics by Coty, Lentheric, Harriet Hubbard Ayer, Hudnut, Revlon, Elizabeth Arden, Yardley and Houbigant drew a very good response from the customers.

Leading department stores report that Elizabeth Arden's pin curl permanent is still a fast selling item which is bringing a steady demand from the customers.

Gene Salee's "Scrub and Live" has created a great deal of interest, resulting in good sales.

Men's after-shave lotion still sells far better than men's cologne but the Toddy stick by Sportsman is getting a good response.—*Lee McKennon.*

Technical Abstracts

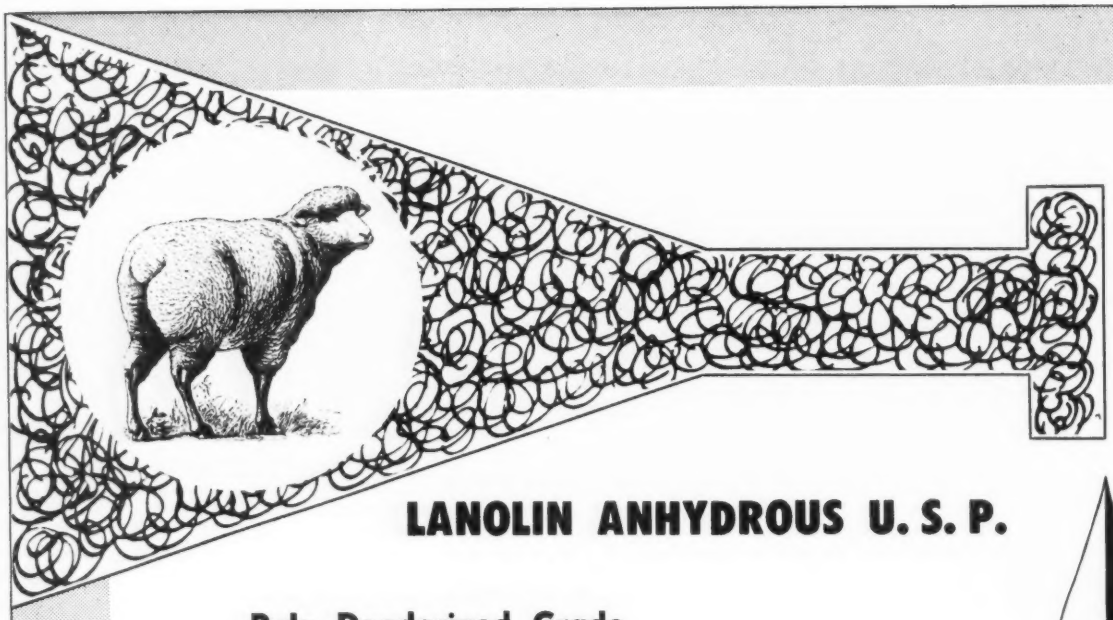
Isolation Of Oleanolic Acid and Ursolic Acid from Thymus Vulgaris, Edward J. Rowe, Jack E. Orr, A. H. Uhl, and Lloyd M. Parks. J. Am. Pharm. Assoc. *38*, 122-4, 1949. From the petr. ether ext. of Thymus vulgaris a triterpene HO acid was isolated and identified as oleanolic acid, $C_{30}H_{48}O_3$, and its isomer, ursolic acid, was isolated from the Et_2O ext. (Thru C. A., *44*, 581, 1950.)

Costus Oil, Yves Rene Naves. Mfg. Chem. *20*, 318–20, 1949. Costus oil is obtained by distn. from the powd. roots of the costus plant, Aplotaxis (saussurea) lappa, and extg. the distillate with C_6H_6 or MePh (yield 0.6–2.8%), or by treating the resinoid with superheated steam under reduced pressure, or by simple distn. under a high vacuum (yield 3.3–4.8%) . . . The oil had previously (cf. Semmler and Feldstein, C. A. *9*, 76, 211) been found to consist of 1% terpenes (phellandrene, camphene, and an alc. $C_{10}H_{18}O$), 20% aplotaxene, $C_{17}H_{28}$, and 60% sesquiterpenes (α- and β-costene, costic acid, costol, costus and dihydrocostus lactone). Another lactone obtained by the author from costus resinoid and called deshydrocostus lactone (cf. C. A. *42*, 7116e), has a hydroguaiazulenic skeleton. The ketonic constituents which were isolated with Girard and Sandulesco reagent P were a mixt. of di-α-inone, β-inone, and cis-dihydroionone. This is the first time that a cis- or trans-dihydrocyclogeranic ring compd. has been found in the vegetable kingdom. (Thru C. A. *44*, 581, 1950)

Fischer Indole Synthesis, I. C. S. Barnes, K. H. Pausacker, and C. I. Schubert, J. Chem. Soc. 1949, 1381–4. Cyclohexanone 2-methoxyphenylhydrazone (68g), added to 65 ml. concd. H_2SO_4 and 590 ml. H_2O at 90°, refluxed 5 min., and the product extd. with ether gives, from the ether-sol. portion, 8-methoxy-1,2,3,4-tetrahydrocarbazole. The ether-insol. product (11g), crystd. from C_6H_6 yields 12-methoxy-1,2,3,4-tetrahydroisocarbazole. (Thru C. A., *44*, 601, 1950)

Cyclization of Lavandulol, J. P. Bourquin, H. L. Simon, G. Schappi, U. Steiner, and H. Schinz. Helv. Chim. Acta. *32*, 1564–8, 1949. in German. Natural and synthetic lavandulol (I) have been cyclized by heating with 100% HCO_2H at 100°. The analogous cyclization of geraniol suggests that cyclolavandulol (II) is 1,1,3-trimethyl-4-hydroxymethyl-2-cyclohexene. (Thru C. A. *44*, 534, 1950)

Emulsification. W. K. S. Wallersteiner, International Chemical Engineering & Process Industrie 1949, *30*, 306–311. A general review of the various types of emulsifying and homogenising machinery and their use in preparing dispersions and emulsions for the textile, paint and printing ink industries. (Thru Soc. of Dyers & Cols. *65*, 549, 1950)



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New Packaging and Promotions

House of Westmore, Hollywood, Calif., is departing from the traditional advice of cosmetic manufacturers by advising women *not* to use any make-up with unhealthy skin conditions. A news release from Bud Westmore warns "In the presence of active skin eruptions, no basic make-up of any kind should be used. Make-up should be confined to the lips and eyes until such time as correction effects a cure."

Jeris Hair Tonic is being offered in a combination sleeve package with Jeris Hair Oil. The manufacturer, Ar. Winarick, Inc., New York is offering a regular size bottle of the oil with the hair tonic for 67 cents, rather than for $1.10 which is what the two products would cost if bought separately.

Helena Rubinstein has added Silk Velvet Hand Lotion to her line of products containing particles of silk. The lotion sells for $1.00 and comes in a pinch bottle designed for easy gripping.

Lucien Lelong is using heavy fashion magazine advertising to promote its latest low priced imported perfumes. The perfumes,

New Lucien Lelong perfumes

called simply "6" and "7" are packaged in 'simple and undecorated' rectangular bottles with large glass stoppers in set-up boxes. The perfumes retail for $9.00 for two ounces.

Bymart, Inc. has signed W. Somerset Maugham and Frank Sinatra for television and radio shows to promote Tintair, the company's recently announced home hair tint.

White Pearl, a white iridescent nail polish, has been added to the Cutex Pearl Brilliance line. The new shade, like the other polishes in the line, will retail for 39 cents. The company has also announced a new counter display and color chart designed to boost the sale of Pearl Brilliance.

Best in the World is a Coty, Inc., New York, Christmas package. Consisting of a transparent plastic globe with all the Earth's continents in

Global Christmas package

relief, the package holds a bottle of Coty perfume. Enclosed in a round set-up box, the globe sells for $3.50.

Saks Fifth Avenue has introduced Sachet Flannels, scented flannel cloth for lining shelves and bureau drawers. Available in three fragrances, the Flannels retail for $5.95 and will be rescented by the store when laundered.

Fleur de Feu cologne to match the perfume introduced last year has been put on the market by Guerlain, Inc. Selling for $4.50 for three ounces, the cologne rounds out a line which includes toilet water, bath oil and talcum as well as the perfume.

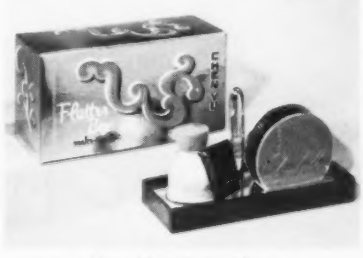
Silk-Tone Foundation and Silk-Screen Face Powder are being offered in a combination package by Helena Rubinstein, New York. The package consists of the distinctive Silk-Tone bottle fastened to the top of a transparent circular box of the powder. The package is being sold for $1.50.

Jean Patou soap

Savon Joy soap at $2.50 a cake has been introduced by Jean Patou, Paris. Each cake of the new soap is individually wrapped and packaged in a white box with the Jean Patou name and monogram. The soap is scented with the same fragrance used in Patou's Joy perfume.

Pond's lipstick has been repackaged in a polished brass case with a colored cap which tapers to a point. The lipstick is manufactured by Pond's Extract Co., New York, and sells for 25 cents.

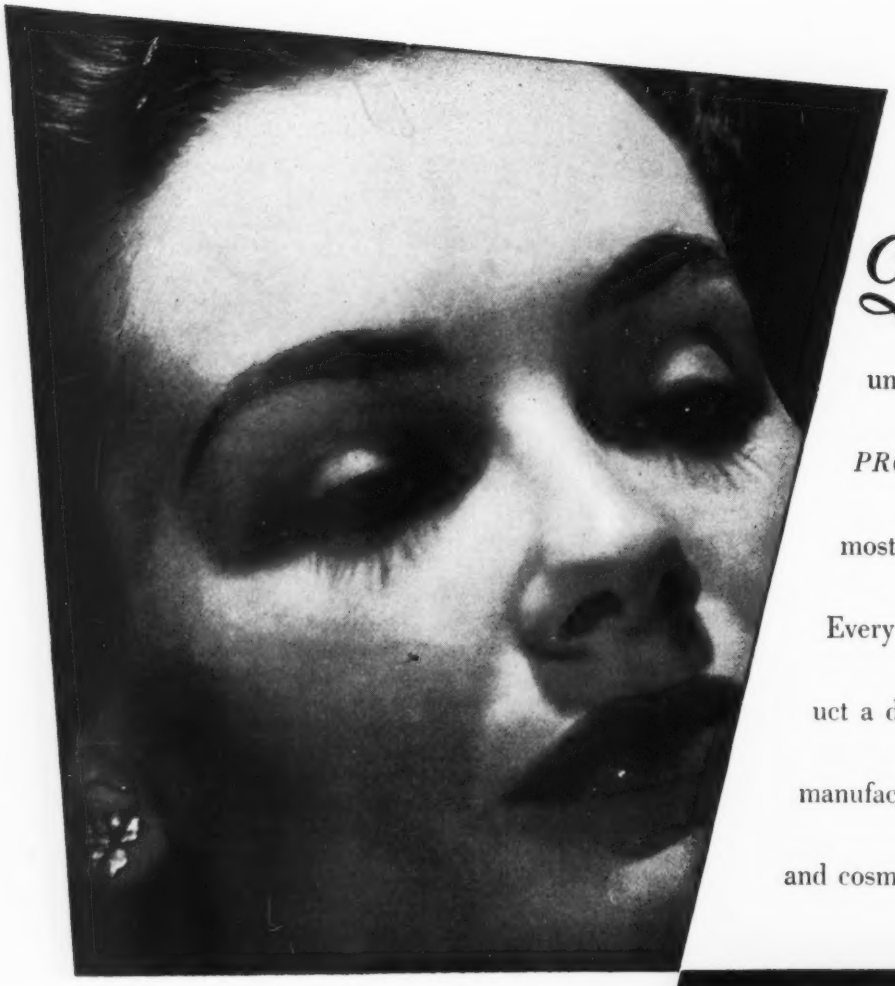
Flatter Box Make-Up Trio is a new promotional package by Chen Yu, Inc., division of Richard Hudnut. The gold and red foil box



New Chen Yu package

holds a Chen Yu Stylestick, Fluid Cloudsilk make-up lotion and Cloudsilk compressed face powder. The package sells for $2.00 plus tax.

Lady Esther, Inc., Chicago, is sending an unusual announcement of its Hands-Up hand cream to 200 beauty editors and buyers. The announcement is a toy basinette containing four shades of the cream in a fluffy cradle. The announcement coincides with a large national newspaper advertising campaign for the product.



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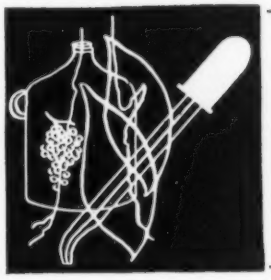


Flavors

Recent Developments in Flavorants

The more recent developments in the flavor field include a method for the synthesis of carvone, the chromatographic separation of terpenes and new methods of analysis

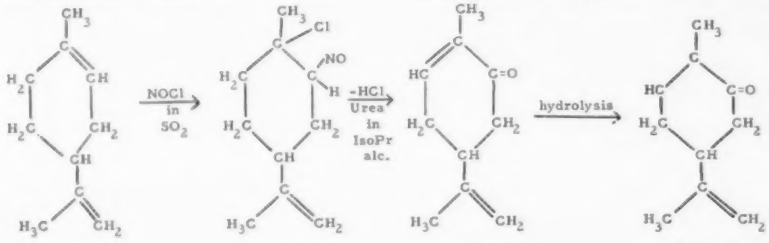
MORRIS B. JACOBS, PH.D.*

AT THE meeting of the American Chemical Society which was held in Chicago from September 3 through 8, a number of papers were presented which are of great interest to those concerned with flavor, flavorants, and flavorings. These papers were presented at various Division meetings and even at the dinner and luncheon meetings.

Synthesis of Carvone

As many of my readers know, natural spearmint oil contains as much as 65 per cent of carvone and the U. S. P. product is required to contain 50 per cent of carvone. There has been some use of carvone as an isolate for addition to natural spearmint oil and for the formulation of artificial spearmint oils.

Bordenca, Allison, and Dirstine of the Southern Research Institute at Birmingham, Alabama, presented a paper on the synthesis of L-carvone from D-limonene before the Division of Industrial and Engineering Chemistry. In this process D-limonene is converted to D-limonene nitrosochloride, the nitrosocholorination being carried out with liquid sulfur dioxide as the solvent. This product, which was obtained in 67 per cent yield was dehydrohalogenated using urea with isopropyl alcohol as the solvent. This dehydrohalogenation produced L-carvoxime in almost theoretical yield. Upon hydrolysis, in which step the pH is carefully controlled, the L-carvoxime is converted to L-carvone, in about 60 per cent yield. These steps may be summarized as follows:



The use of sulfur dioxide as the solvent for the first step and the use of urea in the dehydrohalogenation step enable the process to be carried on economically. The need for purification of the intermediates is also eliminated in this process.

The authors feel that they have achieved two objectives in their new synthesis. First, they have made available a new source of supply for carvone which should be of value to those utilizing this material, particularly, manufacturers of chewing gum, tooth pastes, and others employing a spearmint flavoring. Second, they point out that a new use for D-limonene has been developed. This should prove of value to the processors of citrus products such as those in the citrus canning industry and the manufacturers of terpeneless citrus oils.

Of interest to flavor chemists and essential oil chemists were the papers of Kirchner, Miller, and Keller on the separation and identification of terpenes by a new chromatographic technique, the chromatostrip, and by Miller and Kirchner on the chromatobar, a new chromatographic device. The investigators are associated with the Fruit and Vegetable Chemistry Laboratory of the U. S. Department of Agriculture, Pasadena, California and the papers were presented before the Division of Analytical Chemistry.

Chromatostrip Method

In the chromatostrip method, plaster of Paris ($CaSO_4 \cdot \frac{1}{2} H_2O$) or starch are used to bind various adsorbents to glass strips. These are employed as microcolumns just as in paper chromatography. One end of the prepared glass strip is immersed in a solvent which is per-

* Professor of Chemical Engineering, Polytechnic Institute of Brooklyn.

mitted to travel up the column by capillary attraction. Since the terpenes are colorless, their position on the chromatostrip may be located by use of ultraviolet light, for those compounds which display a color under such conditions or by use of a group of reagents developed by the authors. Among the methods used were spraying the chromatostrip with fluorescein solution and exposing to bromine vapors. This enabled one to detect those compounds for which the rate of bromine absorption is greater than that of eosin absorption. They used concentrated sulfuric acid or a mixture of concentrated sulfuric and nitric acids as a means of detecting very unreactive compounds such as cineol and camphor. In one variation of the method which is useful for solvents containing water, the chromatostrip is placed in contact with cotton saturated with the solvent.

Chromatobar Method

Since the chromatostrip method was only useful for micro quantities of the materials to be separated, Miller and Kirchner developed a device which they termed a chromatobar to separate larger quantities of terpenes. This was made by moulding an adsorbent into a rigid bar with the aid of plaster of Paris as the binder. With such a column, some of which were 2 inches square it is unnecessary to use a glass tube and the reagents used to indicate the chromatographic band can be applied directly to the column itself without extrusion.

The bottom of the bar is placed in contact with the substances to be separated and the chromatogram is developed by means of a solvent which rises, as in the previous example by capillary attraction. The column can be returned to the same or to a different solvent for additional development after initial use of indicating chemicals. This method was employed for the separation of a mixture of limonene, alpha-terpineol, and terpinyl acetate and also of a mixture alpha-pinene, alpha-terpineol, and terpinyl acetate. The authors used their device to purify an impure sample of isoeugenol.

Gailey (*Chemist Analyst*, *n*, 59 (1950) published by the J. T. Baker Chemical Co.) details a method for the detection of bourbonal or ethylvanillin in vanilla extract, by means of chromatography. The method consists of separating vanillin from ethylvanillin chromatographically and then using an indicating reagent of 2 *N* hydrochloric acid saturated with 2, 4-dinitrophenylhydrazine.

Whatman No. 1 filter paper is cut into strips 1-inch by 14.5 inches, one end being cut down to ⅜ inch for 2.5 inches, while two slits are made in the other end for holding a glass rod, which serves to hold the paper down and away from the walls of the cylinder in which it is inserted.

A drop of vanilla extract is placed about 0.5 inch above the glass rod midway between the edges and is permitted to dry. A pencil mark is drawn through the middle of the spot which should be about a 0.4 inch in diameter. About 15 ml. of ammonium hydroxide solution containing 2 per cent by weight of nH_3 is placed into a 2 inch by 15 inch glass-stoppered cylinder and 25 ml. of butyl alcohol is added. The cylinder is stoppered and the mixture is shaken vigorously. After which it is set aside to allow the layers to separate.

The prepared strip* is lowered into the cylinder with care not to wet it and it is held in place by the stopper. After 15 minutes for equilibration, it is lowered so that the strip makes good contact with the butyl alcohol layer but care must be taken not to permit it to touch the ammonium hydroxide phase. The vanilla extract spot must not be immersed either. The cylinder is set aside for 6 to 7 hours to permit the solvent to ascend the strip a distance of 7 inches. The strip is removed and permitted to dry.

It is placed on a glass plate and is brushed very lightly with the 2, 4-dintrophenyl-hydrazine-hydrochloric acid reagent which produces orange-colored spots. The first spot is due to vanillin, the second spot is due to bourbonal, and if heliotropine is present it will appear at *C*.

Gailey points out that though the distance between *A* and *B* will vary with the time of exposure in the glass cylinder, the ratio of the distances to that of *A* to *E* will remain approximately constant. These ratios are for the three constants mentioned 0.34, 0.46, and 0.88 respectively. The author stresses the point that the reproducibility of results will depend on careful standardization of the experimental conditions.

Other developments in the flavor field will be described and discussed in a subsequent issue.

* Drawing is after W. R. Gailey, *Chemist Analyst*, 39, 59 (1950).

Flavored Notes

AN interesting paper presented at the American Chemical Society Meeting in Chicago before the Division of Chemical Literature was that of Paul G. Lauffer of George W. Luft Co., and Edward Sagarin of Givaudan-Delawanna. They stressed the need of adequate descriptions of odors in the chemical literature and emphasized the value of such data to many chemists. They urged chemical editors and educators to be more acutely aware of the role of odor description and expressed the hope that chemists would in the future include more accurate odor data in their published papers.

Monosodium glutamate has been included as an optional ingredient in the definitions and standards of the Food and Drug Administration for mayonnaise, French dressing and salad dressing.

Reprints on the pharmacology and the toxicology of dehydroacetic acid, DHA, a proposed preservative, are available from the Dow Chemical Company, Midland, Mich.

E. C. Crocker of Arthur D. Little gave a very interesting talk on the measurement of flavor and flavor testing at the dinner meeting of the Analytical Chemistry Division of the American Chemical Society in Chicago. After his prepared speech, Mr. Crocker answered many questions asked from the floor. It was a lively meeting.—*M. B. J.*

The current economic situation brought about by the Korean War and the defense program and how it affects the flavoring industry will receive especial attention at the forthcoming forty-second annual meeting of the Flavoring Extract Manufacturers Assn. in New York in May. The meeting will be held at the Statler Hotel and John H. Beach is chairman of the convention committee.

Members and Governors of FEMA Plan for 1951 Convention

A joint meeting of the governors and members in the Flavoring Extract Manufacturers Assn. was held in the Statler Hotel, New York, N.Y. October 20 to make plans for the annual meeting to be held in New York in May, 1951.

John N. Curlett

John N. Curlett, president, conducted the luncheon meeting and asked for suggestions for formulating an interesting and constructive program. Among the suggestions

John H. Beach

offered was one from J. B. Magnus that a government official be invited to give authoritative answers to questions arising out of the defense program. John N. Hall, counsel, also spoke giving much useful information as to the probable difficulties likely to be encountered in the coming year. John H. Beach, convention chairman, also made a brief address.

Those present were: Leslie S. Beggs, Joseph R. Maxwell, E. J. Packard, E. B. Vina, F. C. Bruvic, David Scheinker, A. B. Jacobson, Frederick J. Lueders, F. G. Buehler, G. A. Waegelin, William F. Fischer, E. Heinz, Robert Koch, Charles E. Fricke, Edward Buckley, Don C. Jenks, William Lambert, Thomas M. Bennett, A. R. Ludlow Jr., C. G. Jackson, L. P. Symmes, James MacInnes, Louis J. Woolf, Don Gusow, Joseph F. Rudolph, Paul N. Sperry, L. R. Young, Garrett P. Meyer, John Mulligan, John H. Beach, Jerry Dillon, W. E. Clark, Keith Baldwin, S. E. Anderson, H. L. Dahm, Hugo M. Pfaltz, J. H. McGlumphy, John A. Hubsmith, Edward H. Davis, Alfred Feuer, Paul Nelson, Lloyd Smith, Robert Krone, W. G. Grant, N. R. Jailness, Eugene Sturman, John N. Curlett, Frank W. Green, E. J. Manheimer, P. H. Manheimer, David E. Lakritz, Walker J. Fried and J. B. Magnus.

Guest Speakers for N. Y. U. Course on Aromatics

For the first time a flavor chemist has been invited to speak before the students of the aromatics course conducted by Samuel Klein at New York University. He is Carl Jensen of Givaudan Flavors Inc. Other guest speakers will be Dr. Oliver L. Marton, chief chemist, Shulton Inc.; Herbert Sommer, perfumer, Prince Matchabelli Inc.; Kurt Kulka, research chemist Dodge & Olcott Inc.; and Julien A. Bellot, consultant perfumer. Carl Jenson is scheduled to speak on November 20 on flavor development.

Legal Size Container Ruling Affecting Flavoring Extracts

The Virginia Dare Extract Co., Brooklyn, N.Y. has brought to the attention of the executive offices of the F. E. M. A. a ruling of the State Liquor Authority for New York regarding legal size containers for liquors or wines which in part would work a hardship on manufacturers in the flavoring products industry who heretofore purchased distilled spirits such as brandy, rum, wine etc. in barrels intended in the production of non beverage items such as flavors, flavoring extracts, beverage bases etc.

"Under date of July 11, 1950, the Liquor Authority ruled that manufacturers and wholesalers in this state were prohibited from selling liquors or wines to holders of non-beverage manufacturers' permits except in sealed containers containing quantities not to exceed one quart each of liquor or fifteen gallons each of wine and not less than twelve ounces each of liquor except cordials, liqueurs and bitters or six ounces each of wine.

"In view of numerous requests for rescission of this ruling received from affected permittees and in order to avoid working an undue hardship on such permittees, the Authority postponed the effective date of this ruling until April 1, 1951. It is anticipated that such postponement will enable those permittees who are adversely affected by such ruling to seek remedial legislation at the 1951 session of the Legislature."

John S. Hall, counsel for the F. E. M. A. has made definite recommendations to amend the ruling to specifically exempt permittees as defined in Sec. 91, which would exempt makers of flavoring extracts, syrups and food products. It is expected that the amendment will be passed.

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Seeley & Co. Operate Despite Fire in Plant

Seeley & Co., Nyack, N.Y. continued to operate although a fire on September 22 completely ruined one of the aromatic chemical laboratories. The fire was confined to the one room and did not hinder production or shipping. Products produced by the laboratory were mainly experimental for the use of the company. Reconstruction has been completed according to John M. Nugent.

Plentiful Supply of Sugar for All Domestic Uses

Sugar is now said to be in plentiful supply for domestic uses. The Commerce Department, however, restricted its exports on September 1. It was explained the action was taken to prevent the recent sugar purchases by the Department of Agriculture from being dissipated. The United Kingdom has such a great surplus of sugar that it was confronted with the problem of either increasing the nation's ration or of selling the extra sugar for American dollars. The International Sugar Council was scheduled to meet in London either late in October or in November to make a new international sugar agreement. The Korean War so changed the world picture by reason of heavy international buying that the immediate future is confused. It is possible the impending meeting may clear the situation. The Cuban 1950 sugar quota, which may be imported as direct-consumption sugar, was released for entry into continental United States in late September. No additional Cuban direct-consumption sugar may be made until the additional quota becomes available in January 1951. There still remains, however, approximately 850 thousand short tons of the 1950 Cuban quota against which entries of raw sugar for further processing may be made. At the request of Dr. Carlos Prio Socarras, President of Cuba, the United States made available to the Cuban Government a loan of 25,000 tons of raw sugar which was held in Cuba and which was the property of the United States. The loan did not affect the 8,700,000 tons available in the continental United States under the 1950 sugar quota. Cuba needed the additional supply for local consumption. It will repay the United States from the first sugar produced in the 1951 crop. The harvesting of sugar begins in Cuba late in December or early in January. The Department of Agriculture announced we are buying more sugar from Puerto Rican refiners as well as from the Dominican Republic, Haiti, and Peru. These increases are due to the fact that other countries—not Cuba or the Philippines—failed to supply the quota they agreed to furnish.

First Meeting of Chicago Group of Candy Technologists

The first meeting of the Chicago group of the American Assn. of Candy Technologists was held Nov. 1 under the leadership of Dr. A. B. Cramer. Norman Kempf, director of research of the Walter Baker Chocolate & Cocoa Co. was the speaker.

Technical Abstracts

Flavorous substances in soy. I. Isolation of flavorous substances from soy cake; chiefly the flavorous substances of lower boiling points, Tamotsu Yokotsuka. J. Agr. Chem. Soc. Japan *23*, 200–5, 1949. Soy (Japanese soy sauce) was manufd. from soy-beans 2268 kg., wheat 2268 kg., NaCl 1850 kg., and water 6.06 kl. After 1 year the mixt. was filtered under relatively low pressure, and 350 kg. of soy cake was obtained from 1400 kg. of soy mash. The soy cake (moisture nearly 30%) was crushed and promptly treated for the isolation of flavors. The method of solvent extn. was not successful. There were rather sweet flavors sol. in C_6H_6, $CHCl_3$, petr. ether, and Et_2O; rather acrid flavors sol. in H_2O, very dil. H_2SO_4 (pH3), EtOH, and Me_2OO; and mercaptanlike flavor sol. in CS_2. By means of steam distn. about 30 fractions were sepd. From the distillate of lower b.p. 2 strongly flavorous yellow liquids, $C_9H_{18}O_2$ (b_{120} 33°) and $C_6H_{14}O_4$ (b.72–72.5°), were obtained. The former is very diffusible and resembles the flavor in unheated soy. Besides them, AcH, propionaldehyde, butyraldehyde, valeraldehyde, and an unidentified S compd. (b. under 30°) were isolated. Among the fractions of higher nn b.p., several strong flavors were noted between b_{22} 50° and b_4 100°. The least-volatile flavors were recovered by means of absorption with activated C. By this method other very good flavors not resembling the flavor in soy were obtained. (Thru C.A. *44*, 5034, 1950).

Sodium-free flavoring compositions, Frank L. Cahn (to Louis Milani Foods, Inc.) U.S. 2,500,919, Mar. 21, 1950. A flavoring material is prepd. by mixing the amt. of finely divided K_2CO_3 or $KHCO_3$ required half to neutralize a given amt. of finely divided glutamic acid. This flavoring material may also be used as a base for dry soup concentrates. If the dry mixt. is to be canned, K_2CO_3 should be used. (Thru C.A. *44*, 5037, 1950).

German Chewing Gum, E. Benk, Seifen-Ole-Fette-Wachse *76*, 105–6 (1950) Discussion of chewing gum prepd. from polyvinyl acetate and plasticizers and its possible physiol. effects. (Thru C.A. *44*, 6195, 1950).

anilla beans

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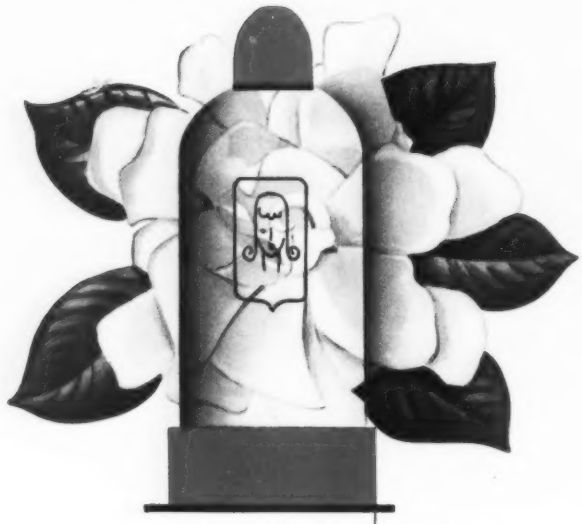

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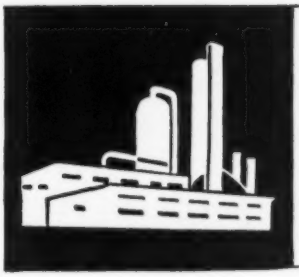
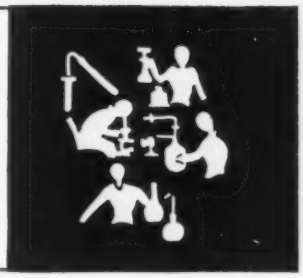


Soaps



Alkali Soaps in Fats and Oils

How to determine the alkali and calcium soaps in fats and oils. . . . Exposition of a method practiced abroad for obtaining exact and better results quickly

THE alkali and calcium soap content in oils and fats may be determined by dissolving a sample in a mixture of 90% benzin, s.g. 0.70 and 10% absolute alcohol brought to a boiling point according to a method developed by German scientists according to *Seifensieder Zeitung*. Then, the operator proceeds to filter and wash with the mixture of benzin and alcohol. Add alcohol (50%) and titrate with $^1/_{10}$ normal lye. The titration gives the content of free fatty acids. After the alcohol has been brought over by distillation, the same process bringing over the benzin, the solution is transferred into a separatory funnel, decomposed with hydrochloric acid and the ether layer washed with water until free from mineral acid. The separated ether is then titrated as above. The difference between the number of cc. of $^1/_{10}$ normal lye used in the two titrations gives the alkali and calcium soap content respectively.

It has been experimentally established, however, that more exact and better results can be obtained, if the following method, which is much quicker, is employed.

Determine the acid content in a sample of fat in the usual manner. A second sample is refluxed with 50 cc. of ether for 30 minutes after having added 2 cc. of hydrochloric acid, s.g. 1.19. Transfer the whole into a separatory funnel, rinse with ether, and wash the solution in the funnel with water until the washings are no longer acid. Distill off the ether, treat the residue with alcohol (96%) and titrate against phenophthalein with $^1/_{10}$ normal lye.

With the aid of the difference of the two acid numbers the content of alkali and calcium soap respectively can be determined as follows:

The acid number 1 equals 0.18 cc. $^1/_{10}$ normal lye and 1 cc. 1.10 normal lye is equivalent to 0.0302 Gm. of sodium soap or 0.0318 Gm. of potassium soap or 0.0299 Gm. of calcium soap, these figures being based on the average molecular weight of 280 for fatty acids.

Example: The difference of the two acid numbers is 3.66. Accordingly, the soap content is as follows:

Sodium Soap: 3.66 x 0.18 x 0.0302 x 100 = 1.98%;

Potassium Soap: 3.66 x 0.18 x 0.0318 x 100 = 2.09%;

Calcium Soap: 3.66 x 0.18 x 0.0299 x 100 = 1.96%.

To which soap (sodium, potassium or calcium) the difference of the two acid numbers is to be applied is shown by the qualitative assay of the fat according to the presence of one or the other soap basis. To determine the presence of calcium soap, boil a sample of the fat with diluted hydrochloric acid and filter through a moistened filter paper. The filtrate is made ammoniacal and boiled again. In case of a precipitate (caused by the chemical reaction with iron or aluminum), filter off and treat with a few drops of about 10 ammonium oxalate solution. A white turbidity or precipitate indicates the presence of calcium soap.

To probe for sodium or potassium soap, a sample of the fat is ashed and the well known flame reaction of sodium or potassium is employed.

Premium Coupon Plan

PREMIUM advertising appeals to the inherent human desire to get something extra. Premiums should also be looked upon as a means of rewarding customers for their continued patronage, and it should also be remembered that women often spend more time and attention on a purchase to take advantage of a coupon offer than they do on their ordinary buying.

For example, judge for yourself how difficult it would be to divorce a housewife from a product when she had saved 75 or more coupons and needed just a few more to get the premium she wanted.

The premium coupon plan obviously works best when the product with which the coupons are packed is purchased in quantity and at short intervals as, for instance, soap. But other companies have successfully used the premium coupon plan by giving consumers the option of paying for the premium with coupons alone or with coupons and cash.

Colgate has used the premium coupon plan with certain of its

Toilet soap is hand packaged on an assembly line basis in the modern factory of J. Grossmith & Sons, Ltd., London, England. Adequate light is provided by fluorescent lamps.

soaps for over 50 years. Some 20 years ago the company combined premium operations with Borden and later with other companies. This combined operation now maintains 50 premium stores located in important cities and, in addition, over 2,000 redemption agencies where consumers may bring coupons and receive premiums. The coupons are interchangeable. Thus, it is possible for the consumer to accumulate coupons quickly.

It would be a mistake to judge the type of merchandise used as premiums in the coupon plan on the basis of those offered so successfully to the juvenile market. Effective as these juvenile premium offers are, they represent only a fraction of the wealth of merchandise offered to the housewife to influence her choice as she fills her daily or weekly market basket. This merchandise is not of substandard quality—something put up especially for the premium trade. Not at all. Premiums have a job to do: they must make a good first impression, but they must also be of a quality that will keep the housewife sold on the advantages of saving coupons.

To the consumer, the premium coupon plan means a dividend on her grocery money in the form of a valuable premium. To the manufacturer, it is the effective means of holding consumers as steady, loyal users of his product.—*John M. Davidson.*

Additive for Detergents

SOAP manufacturers who visited the recent Chemical Exposition in Chicago examined with interest a new water soluble cellulosic, sodium cellulose sulfate offered by the Tennessee Eastmann Corp. As it is added to water the viscosity of the solution increases rapidly. A solution of only 2 to 3% is so thick and syrupy that it can hardly be poured from its container.

In the field of detergents its addition to washing compounds may improve their effectiveness. Soil which is removed from a garment by a detergent tends to resettle on the surface of the fabric. The presence of small amounts of this new cellulose gum in the wash water, it is pointed out, should help prevent this redeposition by holding the soil particules in suspension. Further it was stated, the odor retention properties of a derivative, dimethyl ether of hydroquinone, which has a fragrance similar to sweet clover with unusual stability, make it particularly suitable for use in soaps. Soap products frequently remain on the shelf for months before being opened and used. Unless the perfume selected is highly stable, its odor may disappear while the soap is still on the shelf.

Industry News

Soap Consumption per Person in 1949 down 15%—Synthetics Up

The market reports of the Bureau of Agricultural Economics show that in 1949 the use of soap per person was 15 per cent smaller than in 1948 and the smallest in 19 years of record. For the first three months of 1950 sales of synthetics accounted for 31 cents and soaps 69 cents of the dollar spent for the two classes of detergents.

Soap Business Stabilized R. R. Deupree Points out

In the annual report to stockholders of Procter & Gamble Co., chairman Richard R. Deupree says in part: "During the past 12 months there has been a steady increase in the sales of synthetic detergents by our industry, in which we have shared. The change in the character of cleansing products being produced and used very naturally affects soap brands, but there again we feel that situation has clarified and more or less stabilized. We believe that, along with synthetics, the sales of regular soap products will show progress as a result of the increased population and increased consumption per familly."

Soap Oxidation Preventative Announced—Properties Outlined

An amino compound, ortho biphenyl biguanide, said to be effective in minute quantities in restraining the oxidation of soaps and resulting rancidity and discoloration is announced by the Monsanto Chemical Co. It is said not to impart odor or color to soaps nor to affect their efficiencies and may be employed in soda or potash soaps. Characteristics and how to use it in bar, cake, chip or powder soaps are included in a bulletin available for the asking.

Coconut Oil from Pacific Trust Territory Relieved of Tax

Coconut oil made from copra grown and produced in the trust territory of the Pacific islands is given the same exemption from the additional processing tax of two cents per pound imposed by Sec. 2470 a2 of the Internal revenue code given to coconut oil derived from copra originating in the Philippines and any possession of the U.S. under a bill passed by the House awaiting approval of the Senate before being sent to the president for his signature.

Antibacterial Detergent Sudsing Cream in Squeezable Bottle

A fluid, antibacterial detergent sudsing cream said to be effective in any kind of water is offered by Winthrop-Stearns Inc. in a five ounce polyethylene squeeze bottle dispenser with double closure for pHisoderm with Hexachlorophene 3 per cent. Known as pHisohex, this was developed primarily as a preoperative preparation for the operating team and patient. It is claimed to be nonirritating and more rapid in action than soap. It is said to be nonkeratolytic and more potent as an antibacterial detergent. Company literature states that it is suitable for cleansing the skin and scalp of infants as well as adults and for cleansing genital mucous membranes.

Hints for Improving Production

How better machine layout and position results in increased production . . . How to determine when a machine is properly placed . . . New and improved equipment for plant and laboratory

MACHINE position and layout as an aid to increased production efficiency in the plant is often overlooked.

Experience has unearthed many things that can be done in the average plant through simple changes in machine placement and layout. For example, there's the matter of space allowances around machines. Engineering experience proves that a unit can be said to be properly placed only when it meets the following requirements:

(a) There must be ample room for the worker operating the equipment.

(b) Allowance must be made for overhang, over travel of machine parts and freedom of use of materials around equipment.

(c) There must be room for delivery of materials to the unit and for removal of finished work.

(d) There must be room for temporary storage of materials or finished work in process.

(e) Space should be provided for a workbench or table to handle accessories needed by the worker.

(f) There must be room to get at any part of the machine for quick repair or adjustment.

(g) There must be room for quick access to safety-stops, inspection and maintenance.

Older plants are often devoid of such provisions. The consideration seems to have been to jam as much equipment into as small a space as possible.

Modern machine layout also gives attention to the over-all floor plan and provision of ample immediately accessible space for storage of material, for auxiliary units, repair set-ups and maintenance equipment. When all of these are immediately at hand time out of production for any reason can be kept to a minimum.

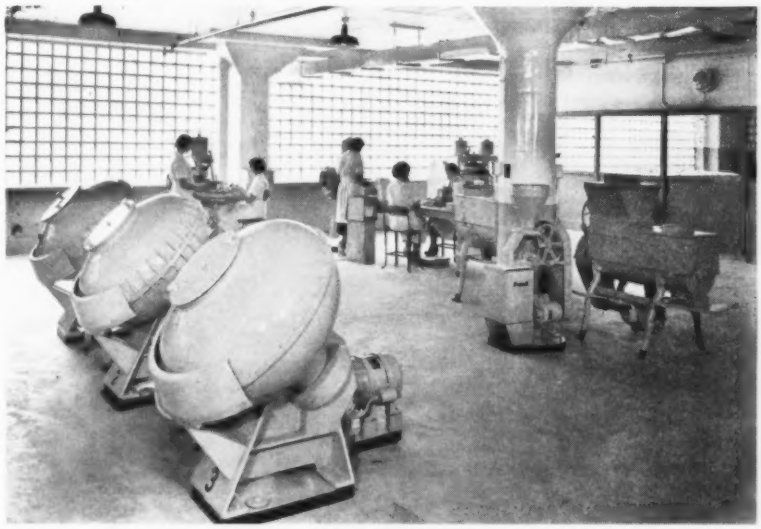
Where the product is not standardised or volume of work processed is low a layout should be planned according to the processes performed to provide flexibility. The advantages of such a layout lie in lower investment due to reduced duplication; machines can be kept busy most of the time; wide flexibility is possible; more skill and efficiency results and manufacturing costs can be kept down.

Where a well-standardised product is in production and large quantities are scheduled the product layout scheme has been proven best. This approach permits the flow of work over direct mechanical routes, less material handling, close coordination of manufacturing, less total time of production, smaller quantities of work in process, smaller floor area needed per unit and ease in breaking in new workers to the production line.

Machine layout should always give attention to stationing the worker at a given point or machine and bringing him the required materials and necessary tools. Such a layout scheme provides for maximum use of both worker and machine and therefore increased production. If 20 per cent of a worker's time is employed in moving away from and toward his machine to obtain materials or anything else the productive value of that machine has been decreased 20 per cent for every day that it is operating.

Layout should also give consideration to the number of machines an operator can attend. This depends upon the standard time of the operation, the hourly production required from the machine and the nature of that particular production. Where such planning is being considered the units involved must be set as close to each other as possible (keeping in mind the location suggestions mentioned earlier) as the ability of the operator to handle them will depend in great measure on the ease with which he can get from one machine to another.

Since machine break-down is inevitable the plant layout must contain provisions to keep the maxi-



Placing of these three automatic mixing machines allows one operator to handle all of them. The plant shown is that of Miles Laboratories, Inc., Elkhart, Indiana.

mum amount of plant working regardless of individual out-of-order machines. Maintenance and machine repairs should also be kept in mind when positioning a machine so as not to have the parts of the machine which require normal maintenance and repair placed up against a wall, pillar or another machine.

Consideration must also be given to how work in process is to be handled with relation to the machine. A layout that adds to the cost of handling materials, semi-finished or finished products, will offset any advantages gained through better location of machines and equipment in the plant. Every machine placement should be studied closely with relation to the problems concerned with the handling and flow of work to and from the machine.

Machine layouts should also be made with lighting consideratons in mind and where a determined position possesses so many advantages that a change for better lighting would not be wise then adequate artificial lighting should be installed at the unit. Wherever it is possible to obtain placement with present lighting the cost of such placement is of course reduced.

Due consideration must also be given to the angle of safety and accident possibilities. No matter what other advantages may be obtained by re-arrangement of equipment if it entails sacrifice of safety in the plant or increases accident possibilities the move is an unwise one.

Accidents have become so costly that they are of primary consideration. It takes an enormous amount of cost-saving to offset physical damage done by even an ordinary plant accident not to speak of injury to human beings working in the plant.—*Ernest W. Fair*

Plant Maintenance Conference

The plant maintenance conference to be held concurrently with the plant maintenance show in Cleveland, Ohio, January 15-18 will include an 18-point program of plant maintenance techniques. Small plant maintenance will be among the subjects covered.

Specially Designed Filter

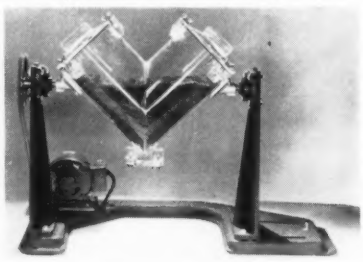
A choice of 30, 20 or 10 sq. ft. filtration area may be obtained from the same unit and peak operating efficiency is maintained at all times whether batch sizes are small or large if the specially designed filter unit offered by Titeflex Inc. is employed according to the company. The new unit includes one filter chamber of 10 sq. ft. filtering area and one of 20 sq. ft. area. Also included is a precoat tank and the unit is so constructed that filter chambers may be operated simultaneously with the precoat tank or singly. It uses permanent filtering elements within the chambers and requires no expendable pads, bags or sheets.

Package Imprinting Machine

New features are incorporated in the line of package code-dating and imprinting machines offered by Adolph Gottscho Inc. it reports. The machines automatically imprint contents information, code dates, etc. on flat folding cartons, paper container caps, tags, bags, etc. An advanced ink control, it is stated, makes it possible to deliver up to 7,200 clean, sharp registered imprints per hour even on waxed, resin coated and other hard to print stocks. Another feature is the wider range of adjustability for varying width, length and thickness.

Laboratory Dry Blender

Cylindrical shells of .187 in. thick plexiglas, fused together at a right angle to form a V-shaped barrel constitute the basic unit in a new dry blender being manufactured for laboratory use. The twin shell blender, made by the Patterson-Kelley Co., designed to handle dry solids uses the acrylic plastic barrels in four quart and eight quart sizes each rotated at 32 rpm by chain and sprocket drive from a gearhead motor. The shape of the barrel is said to provide a combined tumbling and rolling action with a simultaneous transverse movement within the entire mass of material. The unit uses a standard cast aluminum base with an adjustable mount so that it readily accepts either size shell. It weighs 50 lbs. and has base dimensions of 28 x 14 in.



New Laboratory Dry Blender

Conveying Around Corners

Corners in the plant are no longer a problem to conveying products or keeping production lines operating if the new, adjustable, flexible roller conveyors offered by the Berlin Chapman Co. are employed. The conveyor units

New Portable, Flexible Conveyors

are made in 12, 18, 24 and 36 in. widths and may be installed in any combination of radii, for example two 45 deg. turns or a 90 deg. turn that has seven units in it or 180 deg. turn which is 10 ft. 6 in. long. The new conveyor is portable, and the Flex-co roller conveyors as they are known may be easily and quickly moved from one location to another to handle any particular problem of changing plant conditions without redesigning the building to get around corner obstructions.

Processing Literature

To prevent fouling of water lines and equipment, staining and off color dye shades minute amounts of Calgon fed to the water stream before iron or manganese present can precipitate will solve the problem of the so-called red water or iron water resulting from oxidation and precipitation of iron or manganese in the water at its source according to Calgon Inc. The properties of Calgon and its applications are adequately described in an illustrated leaflet issued by the company.

Dimethyl chloroacetal, a versatile, bifunctional reagent now available in commercial quantities is adequately described in an 8-page data bulletin issued by Antara Products, General Aniline & Film Corp. It includes properties and characteristics, a chart of representative reactions and a 41-item bibliography. Information on purification, stability and directions for use are also given.

WASHINGTON PANORAMA

by ARNOLD KRUCKMAN

YOUR academic friends in Government are fond of coining phrases. The latest one we hear down here is the term peripheral committees. The words apply to your industries. The producers and merchandisers of essential oils, as well as those who make flavors, and materials that are used in the range of toiletries, are catalogued as being in the category of peripheral committees. There will be an Essential Oils Industry Advisory Committee, as well as a Toiletries Industry Advisory Committee, a Flavors Industry Advisory Committee, and other Committees representing the various industries whose members are readers of THE AMERICAN PERFUMER. The extent to which these committees will be broken down is not yet clear. Most of the committees representing any industry allied, or connected with the Products of chemicals, and the things that are associated with chemicals, will be screened by C. C. Concannon. It is expected Mr. Concannon will shortly be formally appointed as the head of the Chemicals Division of the Office of Industry Operations in the National Production Authority.

Essential Oil Men Likely to be Chosen for Committee

These industry committees usually take the pattern of consisting of five members. It is expected the Essential Oils Industry Advisory Committee will consist of Hans Wesemann of Fritzsche Brothers, Inc.; Dr. Eric Kunz of Givaudan-Delawanna, Inc.; Gert Keller of Schimmel & Co., as well as two members of the industry chosen either from the firm of Dodge and Olcott, Inc.; van Ameringen-Haebler, Inc.; Ungerer and Co.; W. J. Bush and Co.; George Lueders & Co.; and Norda Essential Oils & Chemical Co. Inc. The recommendations made by the Chemicals Division of the Office of Industry Operations go up along the line until they reach the Assistant Administrator H. B. McCoy. Until he, with Howard Chase, and others, make a decision, the identity of those finally chosen is very hush hush. What has been said here about the Essential Oils Industry Advisory Committee applies to the other committees which will be appointed. The intent is to separate those in the industry who are the primary producers and merchandisers from those who manufacture for the consumer. Each of these groups will be represented by industry advisory committees. Eventually the members of the specific committees will be summoned to Washington to consult with the NPA Administrator and other officials of the NPA, as well as of other control units set up under the Defense Production Act. The exact manner in which the committees will function is among the many things that are not yet very clear. At present only basic industries are represented by advisory committees that are actively summoned frequently to Washington.

Series of Mandatory Allocation Orders on the Way

The Government is shy about giving a detailed picture of the prospective controls program. Gen. William Henry Harrison, NPA Administrator, has made clear that somewhere between November and February there will be a series of mandatory allocation orders, in certain areas, as required by circumstances, which circumstances he would not define more sharply. He left no doubt, however, that it would be necessary, within that period, to make the inventory control order an industrial police measure. Gen. Harrison, who doesn't like to be called "General Harrison" on this job, said the NPA requires certain kinds of basic information. The still limited staff of the NPA is working on the job of devising the forms to elicit the data. As soon as they are ready they will be mailed to virtually every level of the economy. The merchandisers and manufacturers who read THE AMERICAN PERFUMER will get them. It would be wise carefully to read the National Defense Production Act. The reveals the extent of Gen. Harrison's powers; and what will happen to the businessman who is careless about giving fully the information required by the questions on the forms. Bear in mind, the Defense Production Act gives to those to whom the President has delegated his powers, the authority to examine all their books, records, papers, every data of any kind they may wish to scrutinize and survey. There is nothing in your establishment, under certain circumstances, the agents of the NPA may not demand. These officers of the NPA will work out of the field offices of the Department of Commerce. They will be known as compliance officers.

To Organize Almost 10,000 to Combat Inflation

Inflation has apparently set in so rapidly that even the White House feels something must be done about it. For this reason Dr. Alan Valentine, economist and schoolman of Rochester, N.Y., was

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An aromatic compound of the lavender type, exceeding the oil itself in odor, strength, stability and general effectiveness. Equally well suited to be used alone or as a fortifying agent for lavender oil in the proportion of 1 part oil to 3 parts Lavandulol.

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This excellent geranium has been synthesized on the basis of extensive tests carried out with the principal components of geranium oil. Used in a 3 to 1 combination with the natural oil it strengthens and fortifies the outstanding characteristics of the latter. It can of course also be used alone. It should be judged in the finished product.

by

schimmel

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& co., inc.

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named by the President as head of the Economic Stabilization Agency. It is expected it will take Dr. Valentine until the middle of November to make his necessary studies, and to organize the agency which is expected to consist of 200 to 300 economists and commodity specialists in Washington, alone. The ultimate personnel of the organization in the capital, and in the field, has been estimated as high as 10,000 people. The Economic Stability Agency is expected eventually to police compliance with price and wage orders. There will be at least two chief deputies, one to direct price stabilization, the other wage stabilization. If he will take it, Cyrus Ching, now head of the Federal Mediation and Conciliation Service, 74 years old, has been urged to accept the job. Ching is one of the most notable men to work upon labor problems in this Administration.

Dr. Valentine was once president of the University of Rochester. He comes from Glen Cove, Long Island. He has a distinguished academic background. Graduating from Swarthmore, he took his master's degree at the University of Pennsylvania, became a Rhodes scholar, and received honorary degrees from Oxford, Yale, Syracuse, Rutgers, Harvard, University of Pennsylvania and other universities. He is a real businessman. He is now a director of Bausch & Lomb Optical Co.; Buffalo, Rochester and Pittsburg Railway, and the Security Trust Co. of Rochester. Most recently he was chief of the ECA mission in the Netherlands. He is a member of the CED and a trustee of the Carnegie Foundation. He is just 49 years old. His new job is said to pay $18,000 a year.

First Price Controls Likely to be Selective

Informed Washington asserts Dr. Valentine's appointment is due to the fact that Mobilization Director W. Stuart Symington pressed for the action by reason of the complaints of the military. His relations with all the defense departments is very close. The several military services recently have begun spending the billions given to them by Congress. To their amazement and irritation, they found the cost of many items had risen sharply since they made the estimates upon which they secured the Congressional appropriations. They actually found themselves pinched in their program by reason of constantly soaring prices. They demanded stabilization, and Symington championed their cause. You can gather what is happening on the wage side of the picture by the fact that the unions, and other social-minded elements, recently let it be known they would demand from the next Congress that the present 75 cent per hour minimum wage rapidly be increased to $1.25 per hour. This, of course, is for the most unskilled labor. It is generally assumed price controls, in their first application, will be "selective." This means certain outstanding instances of high-soaring prices will be put under controls, and it is said the action will be taken with the hope that they will serve as warning examples. It is surprising to learn that a great number of industrial leaders have urged the President to impose controls. Naturally labor leaders of all complexions are opposed.

Effect of Military Spending to be Evident Soon

We are told that wage raises are adding from $5 to $7 a week to pay envelopes. At the same time, the new taxes are taking from $1 to $1.50 a week out of the pay envelopes. These taxes, obviously, hit tens of millions. The average worker is getting a net increase of something between $4 and $5.50 a week. Present scarcities, of various kinds, are not due to war expenditures, but are attributed to the fact that there is a peak in the spending of civilians for ordinary things of life. The effect of the military spending is expected to be noticeable in December, and increase thereafter. It is estimated $30 billion will be spent during the year ending July 1, 1951, and that the spending will increase thereafter to average between $40 billion and $50 billion a year.

Five to Ten Year Outflow of Funds Anticipated

This outflow of funds is expected to continue not less than five years, and probably ten years, as a minimum. Chairman Keyserling, of the Council of Economic Advisers, high in the confidence of the President, has issued a warning that the Korean success should not inspire too much relief from the sense that a war economy is absolutely necessary. He said on the most hopeful basis military needs, at a greatly increased volume, must be continued during "long, hard, toilsome, sustained effort to sustain a very heavy military burden for many many years." He deplored the fact it seemed so difficult to hammer home the idea to the public. Keyserling's words reflect thoughts of most of the people in the government in Washington. These stupendous expenditures on armament are regarded as peace and security. Lack of armament is weakness and a probability of war. The war money is spent to arm ourselves, to arm Europe, and to arm as many of our friends in Asia as we hope are willing to become our allies. In a much more monstrous sense, we are embarking in the same sort of arms race as prevailed in Europe before the First World War. The competition, obviously, is between us and the Soviet Union. Inevitably this means we are entering the status of the Garrison State, total mobilization, except that we don't use that phrase to describe it.

No Essential Oil Imports into Japan Since War

From the Department of Commerce comes an interesting statement on essential oils related to Japan during the post war period. It is pointed out there have been almost no essential oil imports into Japan since the war. The only import last year was ten metric tons of citronella oil, Java type. The Japan Essence and the Perfume Industry Association, which requires foreign exchange allocations from the Japanese Government, calculates the industry's import needs for the next year.

Japan's production of organic chemicals derived from essential oils, last year, totaled 334,343 pounds. The essential oils used were available from prewar stock. The organic chemicals were consumed in Japan. It is interesting to note that the names and addresses of the manufacturers of the organic chemicals were quoted in the report but had to be deleted as result of a law enacted by Congress which requires they should be made available only upon application to the Commercial Intelligence Division, Department of Commerce, Washington 25, D.C. if you pay $1.00 per list per country. In other words, the tax payers pay for the preparations of the lists, and for the preparation of the publication of the lists, and then, in addition, are required to pay a merchandising price to obtain the lists.

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the charm
and chic of
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Creative Perfumers will unquestionably add these specialties to their palette as new, provocative shades or as replacements of the natural floral product—at a great saving.

Jasmin 2242—Its rich and flowery character gives to the finished perfume the same effect as the absolute of Jasmin.

Rosafleur—As an extender or as a replacement of Absolute Rose, Rosafleur enhances and maintains the brilliant notes of the natural product—at only a fraction of the cost.

PERFUME SPECIALTIES

de Laire

DIVISION OF

DODGE & OLCOTT, INC.

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New Products and Developments

Printed 23 Karat Gold Decals

Printed 23 karat gold decalcomanias are now available from Palm, Fechteler & Co. Gold decals were introduced by the company in 1949 but it was not until recently that printing and artwork could be successfullly reproduced on them. The gold decals are said to be particularly suitable for solid background labels and ornamental purposes such as striping.

Perfume Diffuser for Bottles

For dispensing or spreading perfume, iodine and other liquids smoothly on touching the skin, Sudbury Import Co. offers simple new dispensers which press-fit in the bottle neck and eliminate glass rods, brushes and mess and waste. The bottle of perfume or other liquid is filled with the liquid. The diffuser is pressed into the bottle neck. A screw cap is placed on the bottle. To use the perfume it is necessary only to remove the screw cap and turn the bottle upside down and spread on the surface desired. To refill the bottles the diffuser is readily removed. The diffusers are supplied in 8, 10 and 13 mm sizes and also in larger sizes on specification.

Premium Containers

Styrene flower pots and special lock-tite ethylene covers make ideal premium containers for soap powders, chips and similar products according to the Rogers Plastics Corp. According to the maker's description the cover has a lock-tite and leakproof feature and the pots come in a variety of attractive colors. The re-use value of the flower pots, it is claimed, make them outstanding for sales promotion.

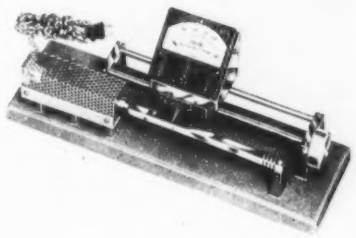
Solvent and Wetting Agent

For use as an intermediate chemical for new compounds, aromatics, disinfectants, preservatives and for masking odors and as a versatile solvent coupling agent and a dispersing or wetting agent for waxes, gums, metallic soaps, etc. to promote hydrophobic surfaces, Scetol is offered by Process Chemical Specialties. It is a blend of organic derivatives derived from the extracts of various vegetable materials. The makers state that it can be hydrogenated, hydrated, sulfurized, and reacts with hydrogen sulphide, halogens and alcohols to form respective derivatives. Full details about it are available on request.

Melting Point Meter

A new melting point meter for fast and accurate determination of melting points between 20 and 500 deg. F of waxes, resins, gums, fats, tars, plastics, organic compounds and inorganic compounds is offered by the Clarkstan Corp.

Accurate determination of a melting point may be made with a



New Melting Point Meter

quantity of but a few milligrams of the substance the makers state. With reasonable precaution samples may be recovered uncontaminated, it is added. The method is said to be fast and the instrument may be used by any laboratory technician.

Model 304 operates by placing a small quantity of the substance on a chromium plated platen or bar which is electrically heated so that a temperature gradient obtains along its length. By observation, the demarcation between the molten and solid particles is determined. At this point the small thermocouple junction is placed. Within a few seconds, the meter indicates the temperature of the point chosen. A screw feed allows the operator to follow the melting point as the bar temperature changes. Both platen and thermocouple may be removed for cleaning and for change in case of damage or contamination. Any one of the four sides of the platen may be used. The instrument operates on 110 volts AC or DC.

New Organic Acid

A new organic acid Evanacid 3CS, a tricarboxylic acid containing a thioether group, is announced by Evans Chemetics, Inc. The alkali and amine soaps of partial esters and amides of the new acid show excellent properties as emulsifying and wetting agents, detergents and foaming agents it is stated. Suggested uses of the new acid and its derivatives are given in a special brochure issued by the company.

French Jasmin Copage

French jasmin copage is offered by Jarnac Products Co. to reproduce the fragrance of the natural oil; and offers to send samples and prices to perfumers interested in examining it.

Trade Literature

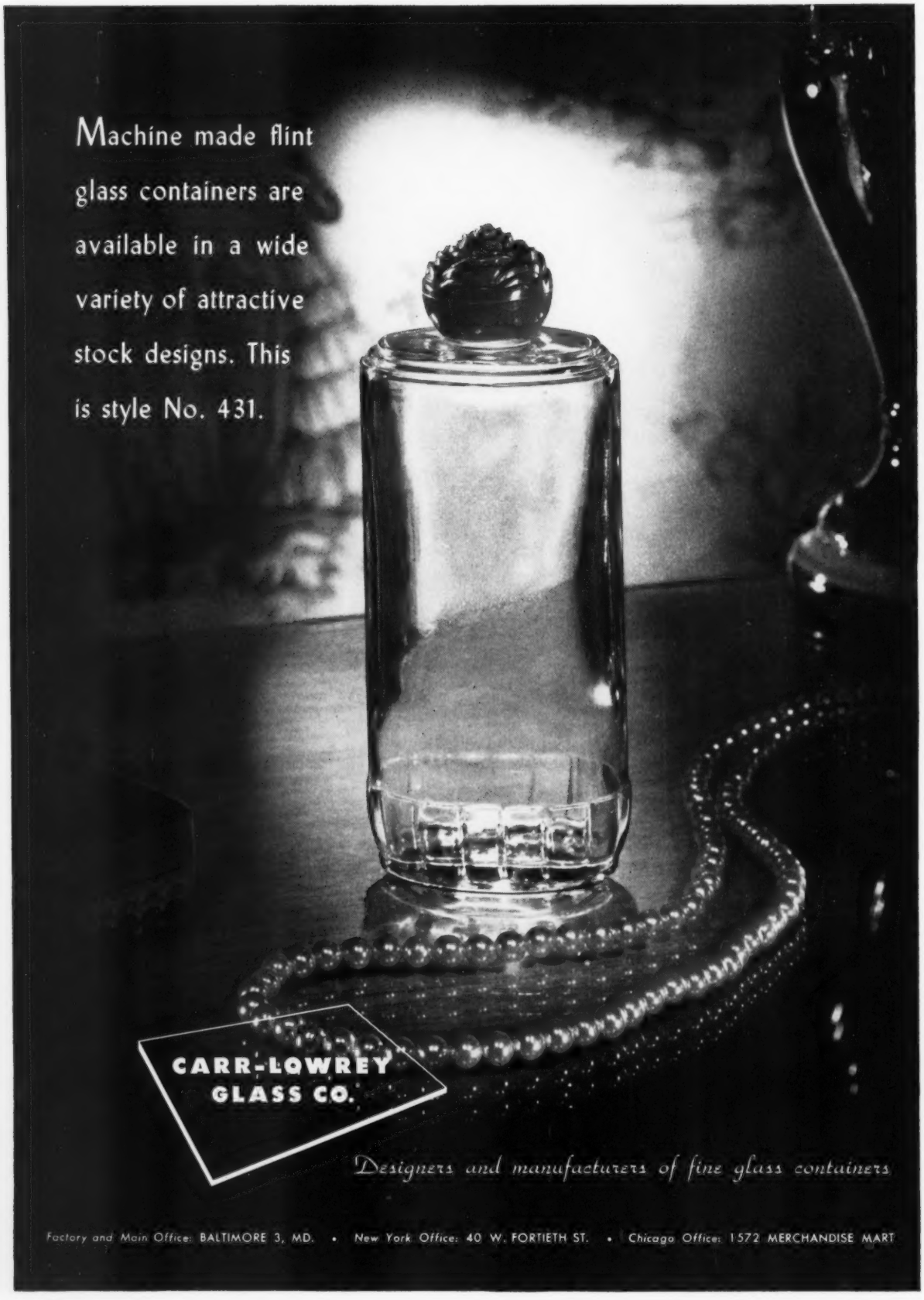
Corrosion proof cements made by the Atlas Mineral Products Co. are described in a bulletin just issued by the company which is available for the asking.

The function of the chemical consultant in today's industrial research is explained in a well prepared 20-page brochure "Research Facilities Without Capital Investment" issued by Foster Dee Snell Inc., 29 W. 15th St., New York, 11, N. Y. The brochure is illustrated and is available on request.

A data bulletin on properties, characteristics, uses and handling information for 1, 4-butanediol, an addition to the glycol series, has been issued by Antara Products, General Aniline & Film Corp.

Characteristics, development and latest applications of Bakelite polyethylene resins are given in a 24-page booklet issued by the Bakelite Div., Union Carbide & Carbon Corp.

Shipping case packing and sealing methods are covered in an 8-page technical service bulletin issued by Paisley Products Inc. It was written to take the grief out of selecting and using solid fibre and corrugated shipping cases. Copies of bulletin 22 may be had without obligation.


Machine made flint glass containers are available in a wide variety of attractive stock designs. This is style No. 431.
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THE ROUND TABLE –

Canada Removes Restrictions on Some Lipstick Holders

Controls on the importation of plain lipstick holders have recently been removed from the Canadian Control Regulations. The Department of National Revenue has ruled, however, that the words "lipstick holders" in the order refer only to what it calls *plain* lipstick holders, not to those which have any decorative design. So-called fancy lipstick holders are still subject to the previous restrictions. As yet there has been no definition of a plain or fancy lipstick container.

Restrictions on the importation of cosmetics into Canada will end on January 2, 1951. This will permit manufacturers to import as much as they want after that date.

Drug Stores Still Lead in Distribution of Cosmetics

According to a detailed report on the relationship of drug store sales to total civilian spending, *Drug Topics* found that the drug trade is still the leading distributor of cosmetics, selling 30.19 per cent in 1949; 30.64 per cent in 1948 and 30.39 per cent in 1947.

Dr. Karas Inspects Essential Oil Production in Spain

Dr. Stephen A. Karas has returned from a four weeks stay in Europe where he visited Paris, Grasse, and the cities of Barcelona, Madrid, Sargossa, Valencia and Murcia in Spain. In Spain he inspected Spanish essential oils such as spike, thyme, rosemary, eucalyptus etc. at the request of a buyer who sought his services. He reports that he was impressed with the establishment of Destilerias Munoz Galvez, S. A. of Murcia. He also said that the year was very dry in Spain, a condition which affected the production of essential oils. The spike crop was just beginning and the opinion is that it will be smaller than last year. Many were buying ahead of time and prices were firm. Dr. Karas traveled through most of Spain during his automobile trip. He said that the main roads are good, life is orderly and the people are friendly.

Dr. Karas in Spain

Judges for T. G. A. Welch Packaging Award Announced

Judges for the Charles S. Welch Memorial Award have been announced by the Toilet Goods Assn. They are: Miss Julia Coburn, Mrs. Fleur Cowles, J. S. Holliday, John McPherrin and L. C. Shockley. There will be an award for the most outstanding package retailing at more than $1 and an award for one retailing at $1 or less. Bronze placques will be presented to the winners at the 1951 convention.

Hexachlorophene Incorporated in Cosmetics by Amole, Inc.

Amole, Inc., Tipp City, Ohio recently incorporated hexachlorophene in a new line of cosmetics made by it and distributed under private labels. William W. McQueen, well known in the cosmetic industry, who is now associated with the company, reports that as added to hand lotion, hand cream, deodorants, cleansing cream, texture cream and cold cream hexacholorophene appears to retain its bacteria killing properties without leaving any odor or sensitivity.

Bymart Seeks Injunction Against Chicago Company

Martin L. Strauss II, chairman and president of Bymart, Inc., has announced that the firm has filed suit for a permanent injunction and civil damages against Louise McMahon and Frances M. Larson, co-owners of the Tintz Co., Chicago. Mr. Strauss said that his firm took action after learning that the defendants had sent telegrams to distributors of Tintair charging infringement of trade names. The complaint filed in Chicago denies that there is any infringement of trade marks and further alleges that the defendants' trade mark is itself "incapable of functioning' as a legal trade mark.

Cosmetic Chemists to Honor Dr. Kunz

The 1950 Medal Award by the Society of Cosmetic Chemists will be presented to Dr. Eric C. Kunz, president of Givaudan-Delawanna,

Dr. Eric C. Kunz

Inc. at a dinner in his honor at the Biltmore Hotel in New York on December Fifth.

The medal is for contributions to the art and science of cosmetics. Dr. Kunz is well known in the industry as the inventor of Deltyl, a mineral oil substitute, and as the guiding genius for Givaudan-Delawanna's research in sunscreens and germicidal agents for soap.

Heyden Chemical Corp. to Expand Manufacturing

Heyden Chemical Corp. will spend $1,175,000 for additions to its manufacturing facilities at its Garfield, N.J. plant. A new power plant and new manufacturing units for the production of pentaerythritol are the principal items in the total.

Jean Naté Raising Prices on Some of Its Products

Jean Naté, Inc., New York, N.Y., finds it necessary to raise prices on some of its products. Only those, on which the cost of materials and labor have increased by such an amount that it makes it absolutely necessary, will be raised.

Jacqueline Cochran Wins International Aviation Award

Miss Jacqueline Cochran, president of Parfums Charbert and also of the company which bears her name has been awarded the Harmon International Aviation Award as the world's outstanding woman flier for the decade 1940-1949. The award was presented by President Truman at the White House Nov. 2.

Miss Cochran twice before has been chosen winner of the Harmon trophy for aviatrix, in 1938 and 1939. Holder of many national and international speed records, Miss Cochran was organizer of the WASP (Women's Airforce Service Pilots) and directed its operation during World War II. In May of 1945 she received the Distinguished Service Medal, the only civilian woman to receive this medal during the war.

Beauty Questions Answered by 30 Demonstrators at Hearn Show

A group of 30 demonstrators from leading manufacturers of cosmetics answered beauty questions at the two week Beauty Secrets Show conducted by Hearn's department store in New York the last week in October and the first week in November. Perfume fountains, mannequins and music were features of the event.

Sterling Drug Honors 50 Year Employee at Luncheon

Charles E. Mercready, 64, recently received a $1,000 bond and a wallet containing 50 one dollar bills on the completion of 50 years of service with the R. L. Watkins Co. division of Sterling Drug, Inc. at its Rahway, N.J. plant. Mr. Mercready started work in 1900 at the age of 14 as an office boy for the Centaur Co. division. In appreciation of his service, he was guest of honor at a luncheon at the Hotel Astor, New York which was attended by Dr. J. M. Hiebert, executive vice-president of Sterling Drug; H. M. Manss, vice-president; D. H. Williams, divisional vice-president and R. R. Ekelmann, plant manager for R. L. Watkins at Rahway.

Dr. Max Luthy Elected a Director of Givaudan Corp.

Dr. Max Luthy has been elected vice-president in charge of production and research of The Givaudan Corporation and subsidiary organizations. The associated and subsidiary companies include Givaudan-Delawanna, Inc., Givaudan Flavors Inc., and Sindar Corporation.

The other officers of the corporation are Dr. Eric C. Kunz, president; Ernest R. Durrer, executive vice-president; Francis N. Bangs, vice-president and secretary; and Harold F. Duffy, treasurer.

Merritt V. Eusey Appointed Vice President of Cal Chem Co.

The appointment of Merritt V. Eusey as vice-president of Cal Chem Co., a subsidiary of Florasynth Laboratories, has been announced by William Lakritz, president of Florasynth. Mr. Eusey is the founder of The Eusey Co., Ltd., makers of Eusey's Jell-A-Teen. From 1938 to 1943 he was sales manager and a director of Ben Hur Products, Inc. which bought The Eusey Co. Before his appointment at Cal Chem he was manager of Florasynth's Pacific Coast operations.

What Lies Ahead in Business Discussed for ADACIOM Nov. 8

An analysis of what may be expected in the changed economy resulting from the international situation was made by Alfred Schindler at the November 8 meeting of the Associated Drug and Chemical Industries of Missouri Inc. meeting.

BIMS Annual Dinner Set for January 25, 1951

The annual dinner of the BIMS will be held at the New York Athletic Club January 25, 1951.

Good Program for Society of Cosmetic Chemists Meeting

The Society of Cosmetic Chemists will hold its annual technical meeting at the Biltmore Hotel in New York on December 5, 1950. The program follows:

8:30 A.M.—Registration

9:30 A.M.—Business meeting and presentation of the following papers:

"Colloidal Magnesium Aluminum Silicate and Its Uses in Cosmetics," Mrs. B. Tarnoff, R. T. Vanderbilt Co.; "Experiences with and Consideration of the Human Patch Test Method," Dr. Herman A. Shelanski, Industrial Toxicology Laboratory; "A Method for Testing the Degerming Efficiency of Hexachlorophene Soap," Dr. Arthur R. Cade, Sindar Corporation; "Current Literature Sources for the Cosmetic Industry," Miss Gertrude Schutze, Bristol-Meyers Co.

12:30 P.M.—Luncheon

2:00 P.M.—Presentation of the following papers:

"The Use of Lactobacillus Counts in Caries Control," Dr. Philip Jay, University of Michigan School of Dentistry; "Swelling Studies on Single Hair Fibers," Milton Eckstrom, Raymond Laboratories; "A New Quantitative Method For the Evaluation and Study of Shampoos," G. Barnett and Dr. D. H. Powers, Richard Hudnut; "Pressure Packaging of Cosmetic Products," Earl Graham, Crown Can Co.

7:00 P.M.—Medal Award Dinner —Dr. Eric C. Kunz, recipient, Givaudan-Delawanna, Inc.

American Society of Perfumers Enjoys Lecture by Jean Millon

Information on merchandising fragrance products was given in an interesting and informative address interspersed with much good humor on the evening of October 18 when Jean Millon, assistant sales manager of Coty Inc. addressed a well attended meeting of the American Society of Perfumers Inc. George Tombak, president, was in charge of the meeting.

Perfumery Technicians Resume Meetings

The Techniciens de la Parfumeraie Francaise has resumed its series of meetings for the season. The last meeting was held at Le Marmiton October 12. P. J. Coutin and F. E. Shoninger acted as co chairmen.

Cosmetic and Allied Trades Credit Men See Army Football

A group of over 50 credit men in the cosmetic, chemical and allied trades enjoyed witnessing the Army-Michigan football game in New York, October 14 as the guests of Nat Otte, of the Fifth Avenue Protective Assn.

Goddess of Crete Presented to G. D. Runnels by Sculptor

The newest perfume and cologne offered by Dermetics Inc., "Goddess of Crete" takes its name from an exotic little goddess who ruled the Aegean civilization around 1500 B. C. The Minoan snake goddess was reportedly worshipped from Asia Minor to Spain as the eternally virgin mother of all things. The original statue in ivory and gold, now 2450 years old, is in the Boston Museum of Fine Arts. A model of this was sculptured from photographs of the original by Miss Dorothy Morrison, the talented publicity director of the company. Miss Morrison is shown presenting the model to G. D. Runnels, president of the company. The perfume sells for $2 per dram and the cologne for $3 for four ounces, plus tax in each case.

Miss Dorothy Morrison presents G. D. Runnels, president of Dermetics, with goddess.

Florasynth President in Research Foundation Award

William Lakritz, president of Florasynth Laboratories, Inc., and treasurer of the Jerome D. Solomon Research Foundation recently participated in the award of a 1950 Chevrolet sedan to A. C. Gignac for his work for the foundation. The organization is affiliated with the Hektoen Institute and was founded in memory of Dr. Jerome D. Solomon, who died in service overseas during World War II.

Beauty Treatments Blamed for Brittle Fingernails

Housework and beauty treatments are some of the probable causes of brittleness of the nails, according to a dermatology professor at the University of Illinois College of Medicine. Dr. Theodore Cornbleet, writing in the Archives of Dermatology and Syphilology, attributed brittleness of the nails, seen most frequently among middle aged women, and in winter, to nail lacquers as well as poor health, housework and occupations. "In women the use of nail lacquers and their removal by oil solvents may dry these appendages and reduce their flexibility," he said. "Trimming these parts into unnatural shapes or allowing them to extend to excessive lengths may be contributory."

In a study of affected nails, he found that the thickness of the nail was uneven, with the middle part thinner than the sides. Normal nails in the same patients did not show this appearance. He surmised that perhaps pressures on the free edge of affected nails set up unusual stresses, causing breakages. The greater frequency in winter was attributed to drier air.

Francois de Laire Visits New Division of Dodge & Olcott Inc.

Francois de Laire, Director General of Fabriques de Laire, Issy-les-Moulineaux, France, returned by airplane to France November 10th, following a month's stay in the United States, highly gratified with the progress made by the new de Laire Division of Dodge & Olcott, Inc. during the past year, and much encouraged by the outlook for the coming year.

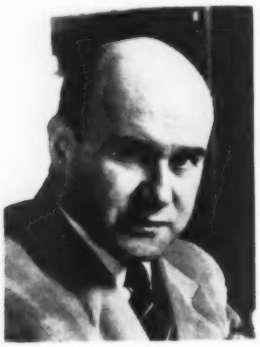
Francois de Laire

Since 1876, when Fabriques de Laire was founded, and created in France the industry of synthetic raw materials in which they are a leading concern, they have devoted their activity to the service of the perfume industry in all its forms. They have created and developed in their plants and laboratories in Issy, as well as in Calais, a considerable number of chemicals valuable for their odors, discovered directly by them or by their associated expert chemists in France as well as in other countries.

To aid perfumers in their studies and work, Fabriques de Laire have provided these interesting chemicals either in their highly purified state or in the form of specialty products developed for more universal use.

For more than 50 years, Fabriques de Laire have been represented in this country by Dodge & Olcott, Inc. and over this half century of comprehensive and successful combined efforts, the two firms worked more closely and intimately together to serve American perfumers. About a year ago it was decided to take another step forward by establishing special offices and laboratories here to be known as de Laire Division of Dodge & Olcott, Inc. This organization is headed by Henri Robert whose reputation in the domain of scents and in the art of combining them is well known. He is also chief research perfumer

of de Laire in France. All his knowledge, ability and means of his laboratories are at the disposal of the American perfume and cosmetic manufacturers.



Henri Robert

During his interview, Mr. de Laire pointed out that in France the better perfumes are founded on specialties, and from his observation on this trip there is evidence that this technique is being pursued more and more by successful American perfumers. He commented that more perfumers recognize that only through specialties can variety and originality of odor notes be achieved.

NBBMA Annual Meeting in Chicago Aug. 18, 1951

The annual meeting of the National Beauty and Barber Manufacturers' Assn. will be held in the Stevens Hotel, Chicago, Ill., August 18, 1951. John W. Hanlon, sales manager of Dermetics, Inc. is chairman of the 1951 convention committee.

William H. Schutte Co. Expanding its Business

The William H. Schutte Co., Chicago, Ill., which formerly represented P. R. Dreyer Inc. in the mid west territory for over a quarter of a century announces that it is devoting all of its attention to the expansion of its own line of perfumers raw materials and specialties.

Scientific Section of T. G. A. to Meet December 6

The Scientific Section of the Toilet Goods Assn. will meet in the Waldorf Astoria Hotel, New York, N.Y. December 6.

The morning session will include the following papers:

The Pilot Plant—Part II;—The Equipment & Its Applications in Drug and Cosmetic Development, by P. C. Wieseman, Norwich Pharmacal Co;

Some Aspects of the Mechanical Behavior of Hair, by Walter J. Hamburger, Henry M. Morgan and Milton M. Platt, Fabric Research Laboratories;

The Pharmaceutical Properties of the Kaolins, by A. Halpern, J. V. Powers and C. H. Bradney, Research Laboratories of E. Fougera & Co., Inc.

At the afternoon session there will be a symposium on olfaction. The following papers are scheduled:

Toward Scientific Method in the Study of Olfaction, by Edward Sagarin, Givaudan-Delawanna, Inc.

A Critical Review of Theories of Olfaction, by James Middleton, Jacquelin Cochran Cosmetics

The Effect of Pathology & Surgery on the Sense of Smell, by Joseph Hersh, M.D.

Practical Applications of Olfactometry, by Bernice M. Wenzel, Ph.D., Department of Psychology, Barnard College.

Future Pathways of Olfactory Research, by Dean Foster, Ph.D., Director Olfactory Research Laboratory Joseph Seagram Sons, Inc.

Bright New Red Hair Coloring Demonstrated by Clairol Inc.

A bright new red hair coloring known as "Flame" which is applied in a simple operation taking about 20 minutes was introduced by Clairol Inc. October 18. A demonstration under the direction of Victor Ferrantelle, chairman of the Clairol Board of Colorstylists, brought favorable comments from a large gathering of publicists and professional hair dressers. Flame was said to need no pre-bleaching or pre-shampooing. When applied to hair of different colors it appears in many shades, thus avoiding a stylized color or dyed look. Its posibilities were demonstrated with living models by Jack Shor.

Allied Assn. of Michigan Learns About Atomic Energy

Industrial applications of atomic energy were explained by Homer Meyers of Radioactive Products Inc. at the October 30 meeting of the Chemical and Allied Industries Assn. of Michigan.

Harry Kiyoto Ushiyama, representing the Japan Chamber of Commerce, flew to the United States late in October to promote a better understanding between the two countries and to develop commercial relations. Visits are being made to the principal cities of the United States. Mr. Ushiyama who is president of the Suwa Chamber of Commerce is also president of a cosmetic manufacturing company. In addition he has operated a beauty salon in Japan for twenty years and conducts a beauty training school along American lines. American hairdress styles for example are superseding those of Japan. While here he is familiarizing himself with the latest developments in cosmetic manufacture and in beauty culture. The accompanying photographs show a corner of the reception room and beauty salon.

French Hairdressers Ban Para Dyes

An agreement between French hairdressing organizations and the leading hair dye concern of France has been negotiated to ban over-the-counter sales of paraphenylene diamine hair dyes. This is expected to forestall a decree forbidding the use of para hair dyes by hairdressers in their business. Commenting on this, the British journal *Hairdressers and Beauty Trade* does not anticipate that the U.K. government will attempt to prevent the use of these dyes, or that British hair dye companies will follow the French suggestion and ban over-the-counter sales. They point out that it would be unfair to pick on hair dye concerns for seeking over-the-counter sales when other hairdressing services are sold in the same way. Moreover, it is universally recognised that the para hair dye is the most efficient of all hair dyes and, to be logical, all aniline hair dyes should be banned under this head, because a person allergic to para is likely to be allergic also, in a greater or lesser degree, to other forms of aniline.

Census on Beauty and Barber Shops Available Soon

The U. S. Census Bureau expects to publish shortly detailed information regarding beauty and barber shops in the United States. It will release results of its 1949 business survey in bulletins which will list for each of the states the number of beauty and barber shops, the number, the number of operators em-

Use of Cosmetics Affords Relief from Hay Fever is Claim

According to Harold Hutchins' *Drug & Cosmetic Newsletter* J. B. Kahn of Chicago claims that many hay fever sufferers can get relief by using his AR-EX cosmetics which are designed for use on normal and allergic skins.

Toni Adds New Neutralizer to Home Wave Kits

A new neutralizer, called Permafix, has been announced by The Toni Co., Chicago. The new neutralizer comes packaged in metal foil envelopes and is mixed with water just before use. R. N. W. Harris, president of the company announced that a new campaign has been launched to emphasize the superiority of the new material. The "Which Twin Has the Toni" campaign, which compared the home wave with a beauty shop wave is replaced with a "Which Girl Has the Natural Curl and Which Girl Has the Toni" campaign. Advertising copy emphasizes that hair waved with Toni lotion and Permafix looks, feels and behaves like naturally curly hair the first day.

Among Our Friends

JEAN DESPRES, general sales manager of Coty Inc., New York, N.Y., has been elected executive vice president. Mr. Despres has been associated with Coty for 30 years and is regarded as one of the key personalities in the cosmetic industry.

E. WALTON BOBST, son of ELMER BOBST president of Warner-Hudnut Inc., has formed the first pharmaceutical concern to specialize in the production of ethical drugs developed to meet the problems of the aged and aging. The concern is known as Bobst Pharmacal Co. and laboratories and offices are at 305 E. 47th St., New York, N.Y. West coast offices are located in Beverly Hills, Calif. and are under the direction of JOHN A. ROOSEVELT, vice president in charge of sales.

ERNST OHLSSON has resigned as chief chemist of Van Dyk & Co. Inc., Belleville, N.J. He was associated with the company since 1915 and served since 1946 as director, vice president and secretary. As yet he has not announced his future plans.

FRANK R. STEELE has been appointed special sales representative for P. R. Dreyer, Inc. in the Chicago area. He succeeds WILLIAM H. SCHUTTE whose company represented Dreyer in Chicago for the past 30 years.

VERNON K. GALITZ has been named Chicago representative of the Bush Aromatics division of the Dow Chemical Co. His headquarters will be the Dow offices in the Field building and his territory will include Indianapolis, Milwaukee and the twin cities. For the past several weeks Mr. Galitz has been familiarizing himself with the work of the Bush Aromatics division laboratories in Jersey City, N.J. and Midland, Mich.

PIERRE GODART, formerly vice president of the Weco Products Co. and prior to that general sales manager of U.S. Time Corp. has been appointed assistant to Norman F. Dahl, president of Bourjois Inc., New York, N.Y.

MISS BEVERLY C. STIANSEN has been appointed vice president in charge of sales and MISS MARGARET GRIFFIN has been made

Miss Beverly Stiansen

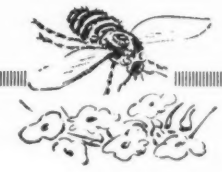
treasurer of Mary Chess Inc., New York, N.Y., according to an announcement by JOSEPH A. DANILEK, president.

HAROLD L. JANOVSKY has been appointed technical director of the Virginia Dare Extract Co., Brooklyn, N.Y., according to an announcement by Dr. B. H. Smith, president of the company. Mr. Janovsky will devote his time to expanding the research work of the company.

JOSEPH RUSSO was welcomed recently as the 45th member of the Veterans' Organization of George Lueders & Co. New York, N.Y. In honor of the event he was the guest of the company at a luncheon in the Drug & Chemical Club and was the recipient of gifts from the company and his associates. He is employed in the Brooklyn factory of the company.

DR. ERNEST GUENTHER, vice president and technical director of Fritzsche Brothers, Inc., New York, attended the opening of the new offices and laboratories of Oficina Controladora de Aceites Esenciales in Guatamala on Oct. 15. His itinerary included a stop at Yucatan where he visited the famous ruins of the Maya city. Accompanying him were JULIAN LYON and HAROLD SOTHERN, American representatives of the Guatamalan cooperative. Dr. Guenther is now investigating essential oil production in South America.

Now you can make
NEUTRAL, SOAP-FREE COLD CREAMS!



New formulation freedom made possible by beeswax derivatives!

Atlas has developed a series of non-ionic emulsifiers, made from beeswax, allowing you a wide new range of possibilities in formulating cold creams . . . creams with advantages like these, for example:

1. **NEUTRAL** . . . pH ranges of 5 to 7 instead of 9 to 10 as in many ordinary beeswax-borax creams.
2. **EXCELLENT LIQUEFYING** . . . Soft consistency creams that "peak" well in the jar and liquefy exceptionally well on the skin by comparison with many commercial creams which are non-liquefying.
3. **SUPERIOR WATER INCORPORATION** . . . Cold creams advantageously including water as high as 30% to 50%, compared with 10% to 35% in most commercial creams of this type. And with equal or superior stability, too.

Of the present seven beeswax derivatives, all are hydrophilic emulsifiers, three being comparatively lipophilic. They resemble beeswax in color, odor, and texture. They may be used with or without beeswax. Exceptionally smooth and stable creams of the soap type also can be formulated with these derivatives, as well as emollient creams, lotions, hair dressings.

Write for latest research bulletins, formulas, samples.

CHEMICALS ATLAS EXPLOSIVES

ATLAS

INDUSTRIAL CHEMICALS DEPARTMENT

ATLAS POWDER COMPANY, WILMINGTON, DELAWARE • OFFICES IN PRINCIPAL CITIES • CANADA-BRANTFORD

L. TRACY SHEFFIELD, president of the century old Sheffield Tube Corp., New London, Conn., a banker and an industrialist, for the

L. T. Sheffield

second successive year has been appointed district vice president of the Connecticut Chamber of Commerce for the county of New London.

ELMER H. BOBST, president of Warner-Hudnut, Inc., New York, N.Y. received a plaque from the Avenue of the Americas Assn. on behalf of his firm when the company building was rededicated October 11. High city officials, and guests of honor from Latin American countries attended the ceremonies. Coincident with the ceremony the New York *Herald-Tribune* published the following sketch of Mr. Bobst in its series of business and financial leaders. "Elmer Bobst started working at the age of 16 in Philadelphia drugstores . . . his father, Isaac, was a Lutheran minister in the Blue Ridge Mountains . . . descendant of three Bobst brothers who came here in 1732, from the German Palatinate. . . . Elmer is serious and pensive, with a light touch . . . now synchronizes his half-century expe-

Elmer Bobst

rience in improvement of human health as president of Warner-Hudnut, Inc., international drug, pharmaceutical and beauty preparations combine . . . is nation chairman of the American Cancer Society's campaign committee . . . cancer work was preceded by his interest in the nutrition and vitamin research of Dr. Tom Spies, Birmingham, and his committee, . . . member of the World Committee for Medical Education and the World Medical Association . . . Joined Hoffman-La Roche Co. in 1911 as a salesman, . . . became general manager in 1920 . . . turned losses into profits . . . came to William A. Warner & Co., Inc.—now an integral part of Warner-Hudnut—in 1945 . . . reorganized the company and its many affiliated units . . . Has no college education, but passed both pharmacy and law examinations . . . remains a passionate believer, at the age of sixty-four, in the ability of organized knowledge to solve scientific problems."

BURTON T. BUSH, consultant for the Bush Aromatics division of the Dow Chemical Co. sailed for France October 14 to consult Herbert Fraysse, president of the house of Synarome. He will also confer with other executives of Laboratoires Synarome which his com-

Burton T. Bush

pany represents in the United States, Canada and Cuba. While in France he will also investigate matters now pending with the Bush Aromatics division and make market studies for the essential oil and aromatic chemical industry. He expects to remain in France about a month.

LYMAN H. ALLEN Jr., formerly assistant chief design engineer in charge of chemical process design with the American Viscose Corp. has been appointed chief engineer of Foster D. Snell, Inc., chemical and engineering consultants of New York, N.Y.

JOSEPH DANILEK, president of Mary Chess Inc., is in Europe on a business trip.

ROBERT RICCI, head of Nina Ricci, Paris, France, has returned to France following a country wide airplane trip with MISS JACQUE-

Miss Cochran and Robert Ricci

LINE COCHRAN and JEAN LEGUAY to introduce "Fille d'Eve" perfume which was created and introduced in Paris a few months ago and introduced in leading stores in this country this fall. The trip was made in Miss Cochran's airplane. Jacqueline Cochran, Inc. is American distributor for Nina Ricci perfumes.

MISS FLORENCE E. WALL, the consulting cosmetic chemist, contributed a section on cosmetics in the new Encyclopedia of Chemical Technology, which appears in Volume IV. Additional data on hair preparations being prepared by her will appear in a subsequent volume. The contribution was reviewed by an outstanding chemist in the industry and will probably be accepted as authoritative.

J. L. JOHNSON has been appointed western regional manager of the Kay Daumit division of the Colgate-Palmolive-Peet Co. He will manage the division which covers the entire south, mid-west and Pa-

J. L. Johnson

cific coast areas. For over 20 years Mr. Johnson served with the Colgate-Palmolive-Peet Co. in St. Louis, Chicago and Atlanta and was made manager of the southern toilet articles division in 1945.

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BULGAROSE

The charm and warm fragrance of the natural Bulgar Otto of Rose are captured in this exceptionally fine compound. This superlative base will add richness and character to your fine creations. It blends smoothly and has excellent fixative powers. Available in 3 different qualities—Bulgarose No. 1, for blends of exceptional quality, $45.00 per lb.; for general use in fine perfumes and cosmetics, Bulgarose No. 2 at $25.00 per lb., and Bulgarose No. 3 at $9.50 per lb. fobny.

•

perfume specialties

creators of the finest perfume bases for every purpose, in every price range

GUNNING

gunning and gunning inc.

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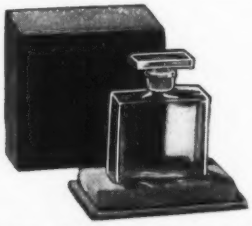

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SAVES YOUR PACKAGING PROBLEMS

Rich looking perfume bottles in handsome boxes mean increased sales FOR YOU.
Attractive striking colors in rayon or cotton velour paper boxes.
Ask for Illustrations and quotation

Samples at wholesale prices

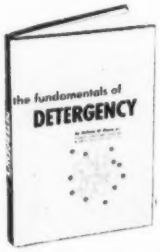
Sudbury IMPORT CO INC.

309 Fifth Avenue **New York, New York**

Importers of ground glass bottles. Guaranteed leakproof.

For the Fast-Growing Detergent Industry

The FUNDAMENTALS of DETERGENCY



by William W. Niven, Jr.
Midwest Research Institute

1950 · 260 pages · illustrated · $6.50

This volume presents a thorough-going treatment of the theory and practical applications of detergents with special reference to their use in laundering processes. All those who require a basic knowledge of the factors involved in detergency, both physical and chemical, and who wish to understand the chemical formulation of modern detergents will find this book of the greatest value, since its principles can be applied to all fields in which surface tension and its related phenomenon play a part.

Order Now for Immediate Delivery

THE AMERICAN PERFUMER

9 East 38th St. · **New York 16, N.Y.**

WILLIAM BONYUN, formerly president of Daggett & Ramsdell Inc., has joined the staff of Dorrance-Waddell Inc. as director of marketing. In addition to his new duties Mr. Bonyun will continue to serve a number of cosmetic concerns for whom he has been acting as sales consultant.

HAROLD HUTCHINS, publisher of the always interesting and informative *Drug & Cosmetic Newsletter*, successfully weathered an emergency appendectomy in the Mt. Vernon hospital last month, and to the gratification of his host of friends is back at work again with his usual energy seemingly none the worse for the ordeal.

DR. DAN DAHLE, honorary member of the Society of Cosmetic Chemists and research chemist for the Bristol-Myers Co. has returned from a trip to Sweden.

MRS. D. OAK-RHIND, representing Christy Products Aust. Ltd. of Melbourne, Australia, arrived back in the United States late in September following an airplane trip around the world which included stops in India, England, Norway and Australia. Two months were spent in Australia. Mrs. Oak-Rhind is interested in introducing to the American market the toiletries made by Christy which are perfumed with the fragrance of Boronia, a flower native to Australia.

HERBERT T. GEORGI has been appointed promotion manager for Houbigant, Inc.

S. F. CONEYBEAR and E. C. KENTON have been elected vice presidents of Evans Research & Development Corp. For the past five years Mr. Coneybear has been development manager and Mr. Kenton has been responsible for government research. Both will continue to serve in their present capacities.

S. F. Coneybear

E. C. Kenton

WILLIAM E. WILLIAMS of Toronto has been elected president of the Procter & Gamble Co. of Canada, Ltd. This is the first time that a Canadian has occupied this position. He was elected vice president in 1947 after 17 years of service with the company. Other officers elected were R. R. DEUPREE, chairman; J. R. BAILLIE, vice president; R. J. McGINLEY, treasurer; FRANK TAYLOR, assistant treasurer; R. B. HARRIS, secretary and SAMUEL BENEDICT, assistant secretary.

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NORTHWESTERN ETHYL BUTYRATE

when this ester is called for in your formulae.

For many years more than half of the Ethyl Butyrate sold in this country has been manufactured by us — proof of the fine quality of our product.

THE LARGEST MAKERS OF BUTYRIC ETHER IN THE WORLD

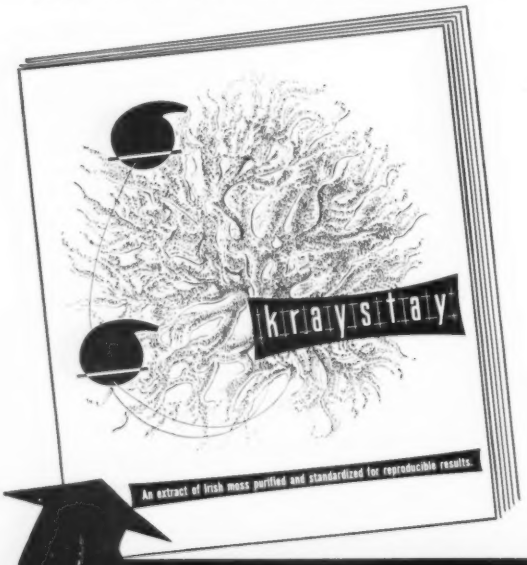
The NORTHWESTERN CHEMICAL CO.

INCORPORATED 1882 WEST CHICAGO, ILLINOIS

Just facts about KRAYSTAY

The finer

STABILIZER • EMULSIFIER • THICKENER
GELLING AGENT • SUSPENDING AGENT



No "super-sell"— just information

Here, in this booklet, are facts you want to know about Kraystay, the finer vegetable stabilizer made with carrageenin by Kraft.

Here you can find out what Kraystay will do . . . and what it *won't* do; where it will help . . . and where it *won't;* how to use it . . . and how *not* to.

This is an informative booklet . . . written by technical people *for* technical people . . . chock-full of charts and graphs . . . checked and double checked by Kraft research men.

No charge, no obligation . . . just send the coupon below.

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Phenix Pabst-ett Company **460 E. Illinois St.**
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cosmetic

container

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Karl Voss

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Karl Voss Corporation

HOBOKEN NEW JERSEY

RAYMOND F. UNDERWOOD has been appointed vice president and general sales manager of the Pepsodent division of the Lever Bros. Co.

Raymond F. Underwood

DR. HOWARD LYLE GOTTLIEB has been appointed development chemist of Bjorksten Research Laboratories, Inc., Chicago, New York and Madison, Wisc.

MISS NAN M. COLLINS who was associated with the Roland G. E. Ullman Organization Inc. of Philadelphia for over 20 years has opened her own advertising agency at 112 S. 16th St. Philadelphia, 2, Pa. Miss Collins is well known for her work in the packaging field. She is a past president of the Philadelphia Club of Advertising Women and was recently elected a director of the Philadelphia chapter of the American Marketing Assn.

PHILIP PRUSSAK, chief chemist for Associated Brands, Inc., Brooklyn, N.Y., caught his first marlin on a recent fishing trip to Virginia. The marlin was over six feet long and required almost an hour to land.

Obituary

Cecil Smith

Cecil Smith, retired president of Yardley & Co., New York, died Oct. 23 at Greenwich Hospital in Connecticut. He was 66 years old and a resident of Riverside, Conn.

Mr. Smith who retired in January, 1949, was associated with Yardley for forty years. From 1913 to 1920 he was general manager of Yardley's Australian organization, which he established. He came to New York in 1921 to set up Yardley's American operations.

Born and educated in London, Mr. Smith was always active in stimulating trade relations between the United States and the British Empire. He was recognized as a leader in this country's cosmetic industry and was also engaged in furthering the standards of his avocation, music. Mr. Smith was a former president of the Toilet Goods Assn., a director of the Perfumery Importers Assn. and was former president of the British Empire Chamber of Commerce in the U.S.

Cecil Smith

Helen Allen

Miss Helen Allen, executive vice-president, secretary and assistant president of Parfums Corday, New York, died Nov. 1 after a brief illness. She was well known for her original packages.

OIL ORRIS ROOT LIQUID ABSOLUTE

ORRIS CONCRETE

ORRIS OLEORESIN *(Resinoid)*

Experience demonstrates that none of the substitutes for Orris is wholly satisfactory in giving the characteristic Orris note. It is therefore fortunate that these well known Bush specialties are now readily available.

W. J. BUSH & CO., Inc.

ESSENTIAL OILS . . . AROMATIC CHEMICALS . . . NATURAL FLORAL PRODUCTS

11 EAST 38TH STREET, NEW YORK 16, N. Y.

LINDEN, N. J. **NATIONAL CITY, CAL.**

LONDON **MITCHAM** **WIDNES**

BENJ. FRENCH, INC.

Essential Oils *Aromatic Chemicals*

DESCOLLONGES
PRODUCTS

CASSIE S. Y.

A powerful and lasting Cassie odor, useful for many purposes including soap, in which it is very stable.

BITTEROL

An inexpensive compound which possesses the somewhat bitter, green odor characteristic of many flowers.

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Quality ★ ★ ★

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Vanities
Jar Caps
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Powder Boxes
Perfume Vial Cases and Caps
Lip Brushes
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and

Other Special Metal Products for the Cosmetic Industry

THE BRIDGEPORT METAL GOODS MFG. CO.

BRIDGEPORT Established 1909 CONN.

Market Report

Raw Material Demand Remains High

RAW material prices with few exceptions remain at the highest levels of the year and under the influences of a brisk demand, and generally reduced supplies, the upward tendency may further be extended over the closing weeks. Menthol was about the only single article that displayed any real weakness. It was only back in September that menthol was selling close to $16 per pound whereas at the close of last month the article was freely offered at $11.40 to $12 per pound. Scare buying on the part of dealers and consumers shortly after the outbreak of the Korean war served to force spot prices higher at a time when shipping prices in China were declining.

China Increases Menthol Output

Until last year Brazil was a major source of our menthol supply. The country first figured as an exporter of menthol in 1944 when 296 tons were shipped to foreign countries. The exports rose to 475 tons in the following year. Since that time the exports have declined and in the first six months of this year only 58 tons were shipped out of Brazil. Increasing quantities have been coming out of China over the past several months and late advices from Japan state that menthol production from the fall crop of pepper mint oil is expected to run close- to 90,000 pounds or about double the amount produced last year. The first cutting of the mint crop in China yielded 6,000 cases or 360,000 pounds of menthol but it is still too early to determine the amount that will be produced from the second cutting.

The continued strength in most of the essential oils was supported by a brisk demand. The inquiries as well as many orders reaching the market toward the close of the period indicated that many users were still ordering goods for immediate or nearby consumption and that despite unusual activity which was noted in the market in the early stages of the Korean conflict consumer inventories might still be regarded as generally on the low side.

Coriander Supplies Short

Influenced by high costs and small supplies, most of the spice oils were featured by a generally strong tone over the past month. There was very little coriander oil in the hands of local dealers and, since the article is of Russian origin, there is no possible way of estimating the time or the quantity of future shipments.

Bergamot Prices Rise

The upward trend in bergamot oil was more pronounced than ever over the past month. With the whole world dependent upon Italy as a source of supply it was necessary to reduce monthly export quotas to all countries. Our share of last month's quota was further reduced by a third. Local houses do not anticipate any relief in the tight supply position in bergamot until the new crop is made available early next year.

Aromatic Chemicals Up

Demand for aromatic chemicals was active with the shortage of basic chemicals as well as rising costs of certain oils such as lemongrass, geranium and bois de rose all serving to make for unusually firm conditions in the market. Vanillin and coumarin were in a generally tight supply position. Makers were watching every order and inquiry closely in an effort to stretch supplies. Odd lots in the resale market were reported commanding premiums over makers' quotations.

Among the balsams, copaiba scored a spectacular advance when late inquiries for spot goods brought out the fact that stocks here had been badly depleted and that very little material was to be had out of the primary center. Producers explained that because of low prices for some time and a rather disappointing demand, their attention and efforts had been diverted to more remunerative commodities.

Glycerin Cost Up

Glycerin prices, which have already had a rather substantial advance since July, show indications of going still higher in the face of repeated rumors concerning a possible roll-back in selling schedules to June levels. Civilian demands have been running far in excess of supplies and with defense orders now coming into the market the future supply position as well as the price outlook is creating real concern in trade circles.

Synthetic Glycerin to Expand

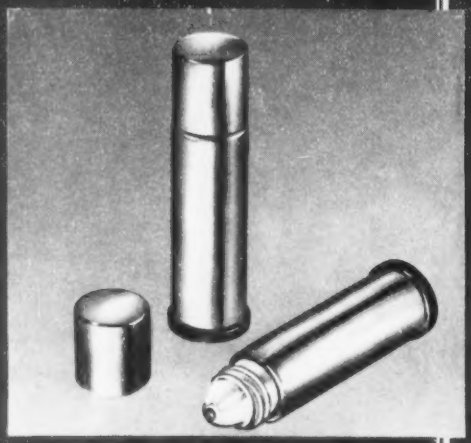
Production of synthetic glycerin is continuing to run close to capacity or at the rate of about 35,000,000 pounds a year. The synthesis of glycerin on a commercial scale got under way in the latter part of last year. Recent reports in the trade have indicated that production of synthetic material may be expanded and that by June next year production will have been increased to around 48,000,000 pounds a year.

The domestic industrial alcohol industry is struggling along to meet increased demands in the face of higher grain and other raw material costs to supplement blackstrap molasses. Reports from Cuba state that major producers in that country are giving serious thought to diverting molasses normally sold to distillers to their own alcohol plants. Cuba points out that American distillers have sizeable amounts of surplus grains and potatoes that could be used.

RICHFORD SPILLPROOF* PERFUME FLACONS

SPILLPROOFS

Top Left: Plain Round (1 dr.)
Lower Left: Pinched Square (1 dr.)
Top Right: Plain Round (1½ dr.)
Lower Right: Watch Case (1 dr.)



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Plain round (1 dr.) encased in highly polished Brass container with flush cap. Tarnish-Proof

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with inside thread and goldplated Metal Stoppers from ⅛ dram and up, other **Glass Specialties** and **Display** items made to order.

We also service you with beautiful **GOLD** finish and **Frost** on your bottles, prompt and reliable. Inquiries invited.

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PRICES IN THE NEW YORK MARKET

(Quotations on these pages are those made by local dealers, but are subject to revision without notice)

ESSENTIAL OILS

All prices per lb. unless otherwise specified.

Almond Bit, FPA per lb.	3.75@	4.50
Sweet True	.65@	.90
Apricot Kernel	.50@	.58
Amyris	1.70@	1.90
Angelica Root	135.00@	190.00
Anise, U. S. P.	1.30@	1.50
Aspic (spike) Span	1.00@	1.45
Avocado	1.10@	1.50
Bay	1.35@	1.85
Bergamot	6.65@	7.10
Artificial	2.75@	3.80
Birchtar, crude	1.15@	1.40
Birchtar, rectified	4.25@	4.85
Bois de Rose	4.00@	4.25
Cade, U. S. P.	.40@	.60
Cajeput U. S. P.	2.35@	2.80
Cajuput (technical)	2.10@	2.50
Redistilled, U.S.P.	2.65@	2.85
Calamus	20.00@	25.00
Camphor "White"	.25@	.50
Cananga, native	5.10@	5.40
Rectified	6.35@	6.60
Caraway	4.00@	4.75
Cardamon	58.00@	62.00
Cascarilla		40.00
Cassia, rectified, U. S. P.	4.85@	5.00
Cedar leaf U. S. P.	2.65@	2.90
Cedar Wood	.45@	.55
Celery	17.00@	17.75
Chamomile Hungarian	250.00@	280.00
Cinnamon oil—Bark	35.00@	50.00
Leaf	1.35@	1.50
Citronella, Ceylon	1.50@	1.65
Java type	2.25@	2.50
Cloves, Zanzibar	2.00@	2.15
Madagascar	2.25@	2.60
Copaiba	2.00@	2.75
Coriander	25.00@	35.00
Croton	5.00@	6.20
Cumin	5.65@	6.30
Dill—		
Weed	5.25@	5.75
Seed	6.50@	7.80
Erigeron	5.75@	6.00
Eucalyptus	.75@	1.35
Fennel, Sweet	2.65@	3.25
Garlic (oz.)	7.00@	7.75
Grapefruit	1.00@	1.80
Geranium, Rose, Algerian	25.00@	32.00
Bourbon	35.00@	38.50
Turkish	7.80@	10.00
Ginger	22.00@	25.00
Guaiac (Wood)	1.90@	2.20
Hemlock	2.00@	2.40
Juniper Berry	3.25@	5.00
Laurel leaf	9.80@	12.50
Lavandin	2.85@	3.25
Lavender, French	3.35@	6.75
Lemon, Calif.	4.25@	4.50
Italian	4.00@	6.50
Lemongrass	2.85@	3.10
Limes, distilled	6.00@	7.00
Expressed	10.50@	13.75
Linaloe wood	3.50@	3.85
Lovage (oz.)	10.00@	12.00
Mace	3.65@	4.20
Marjoram	3.50@	4.50
Neroli, Bigarde P.	85.00@	95.00
Petale, extra NF	155.00@	180.00
Nutmeg	3.85@	4.10
Ocotea Cymbarum	.70@	.85
Olibanum	6.00@	6.50
Opopanax	42.50@	47.00
Orange, Florida	1.25@	1.40
Brazilian	1.25@	1.50
Calif., exp.	1.50@	1.75
Orris Root, abs. (oz.)	65.00@	70.00
Artificial	36.00	Nom'l
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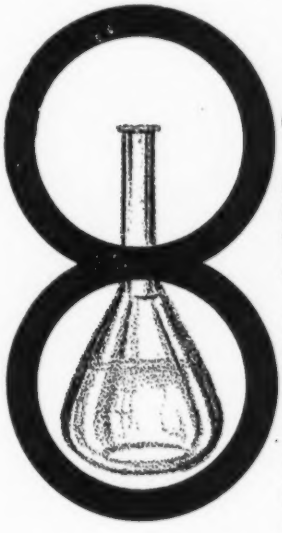

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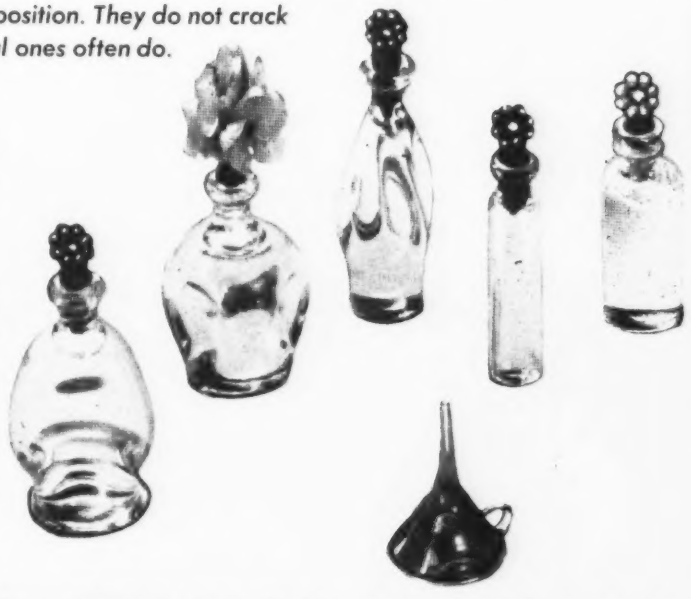

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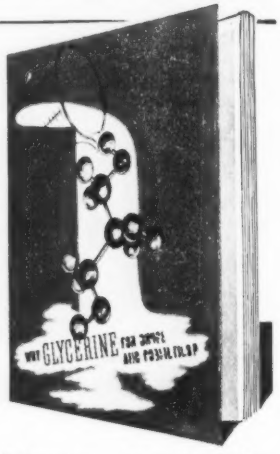

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Lard, Chicago	.12½@	
Lard Oil, common, No. 1 drums	.16½@	.17
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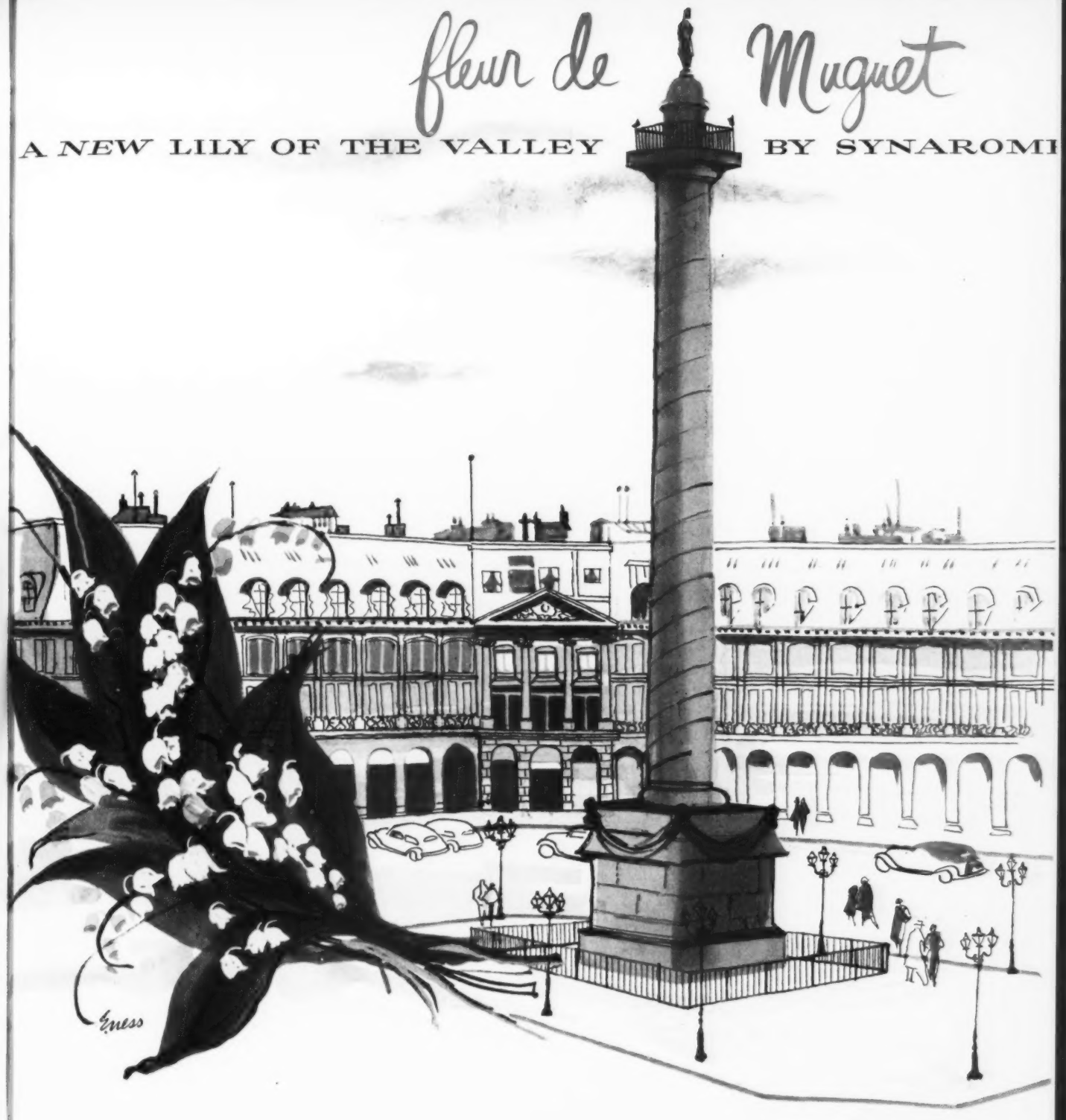

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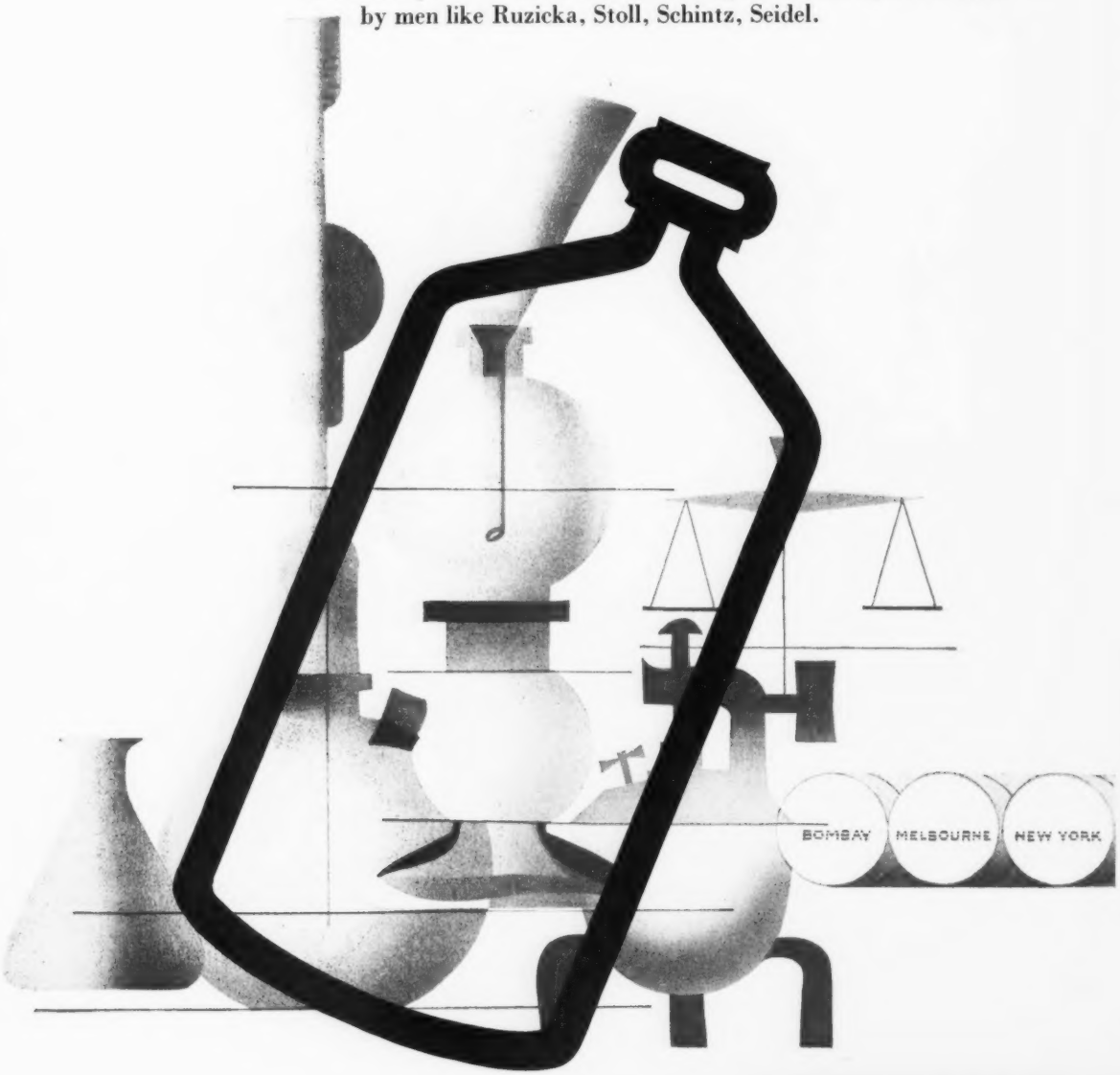

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